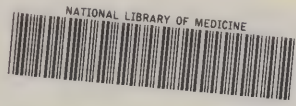


A PHYSICIAN
IN
THE HOUSE



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Dr. J. H. Greer.

A

PROFICIAN IN THE HOUSE

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A
PHYSICIAN IN THE HOUSE

FOR
FAMILY AND INDIVIDUAL
CONSULTATION.

CONTAINING
VALUABLE ARTICLES ON LIFE AND ITS PRESERVATION THE ACTIONS OF THE
BODY IN HEALTH AND DISEASE, THE RULES OF HYGIENE AND
PROPER LIVING, CHARACTERISTICS OF FOODS, ETC.
ALSO A COMPLETE CYCLOPÆDIA
OF DISEASES AND THEIR
TREATMENT BY

NON-POISONOUS REMEDIES

WITH
Descriptions of Medicinal Agents and Numerous Formulas and
Special Articles

WRITTEN IN PLAIN LANGUAGE

BY

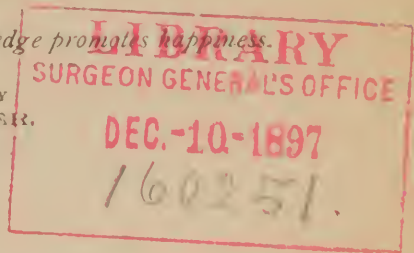
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of Medicine and Surgery, and Physician-in-Chief of the Harvard
Medical Institute, Chicago, Ill.*

Illustrated with numerous Lithographic Plates and
Wood Engravings.

Ignorance begets misery—Knowledge promotes happiness.

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II.

This diagram is one of the head and neck, supposed to be divided in the middle in an anterior-posterior direction.

The brain and its divisions (differently colored for purposes of illustration) and the various passages of the nose, throat, etc., are very fairly shown. It is deemed better to make a separate diagram of the eye, and that, with the ear, appears in another plate.

It will be well for the reader to remember that these plates are nearly all diagrammatic and that the intention is to give a "general idea" of the parts illustrated, such as will assist in understanding the text of the book in passages where reference is made to certain parts of the body.

II.

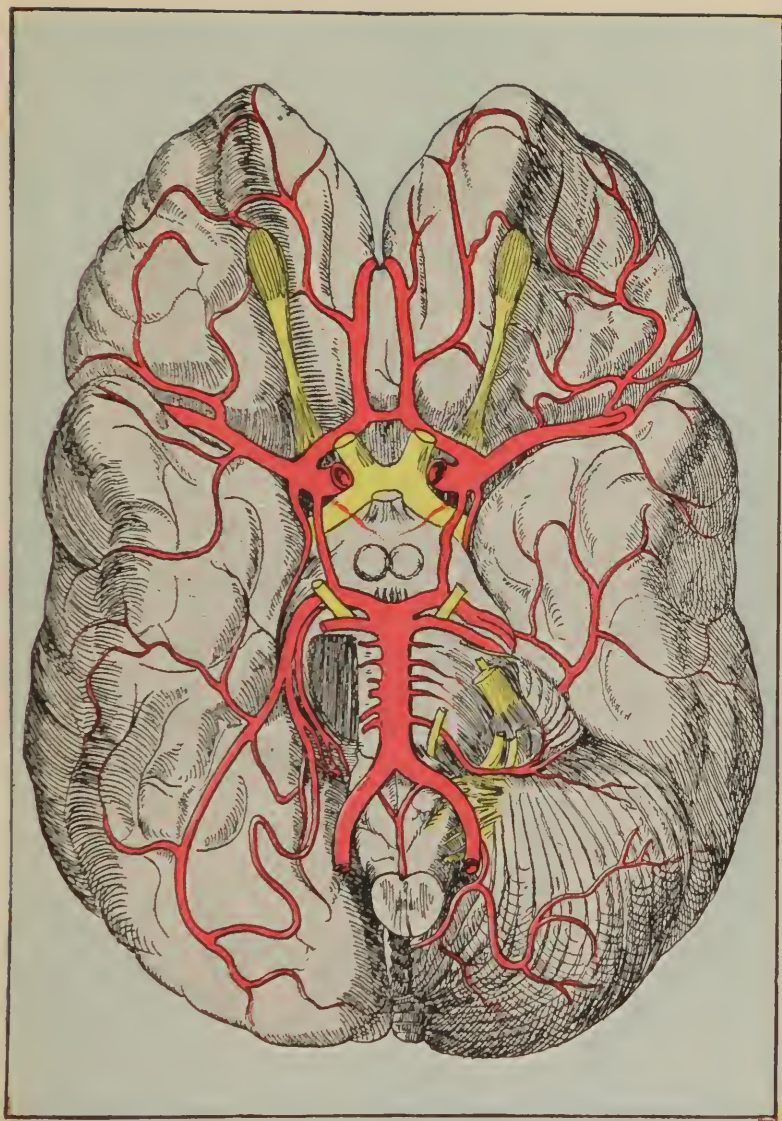


III.

This plate represents the base of the brain. The front portion is above and that portion which appears to the right in the plate is the left of the brain. The upper branches of the "X" in the center are the optic nerves. The two spoon shaped branches above are the olfactory nerves. These are the nerves of the eye and the nose.

The Internal Carotid artery is shown "cut in two" at the central X. The Basilar artery and its branches appears below.

III.

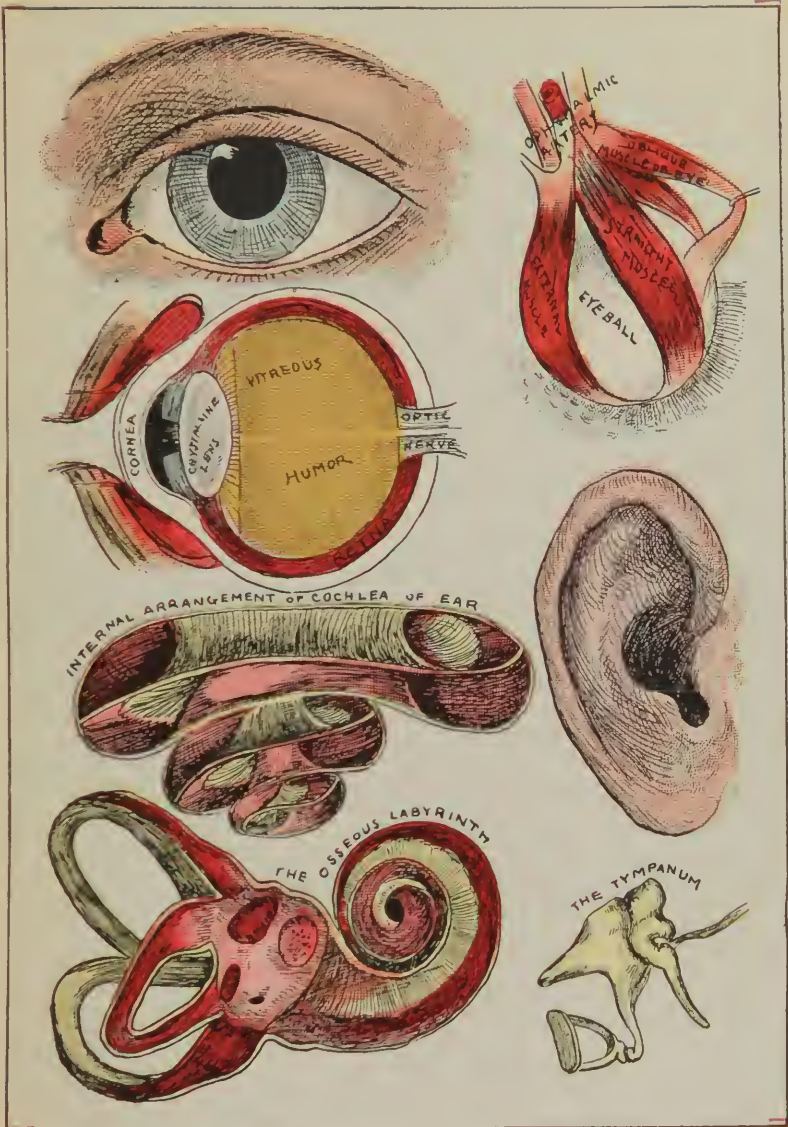


IV.

THE EYE.—It is impossible in this space to do more than outline the construction of this organ. The parts are named in the plate. The Crystalline Lens corresponds to the lens of a camera, and being of elastic material its degree of convexity and therefore its focus can be regulated by the tension of the muscles which attach to its sides. It will be readily seen that an image brought within the proper focus will be reflected on the back wall of the eyeball—the Retina—and so reach the optic nerve. The muscular arrangement of the eye is shown in the upper right hand corner of the plate.

THE EAR.—The mechanism of hearing is very complex. Three very small bones, the *stapes*, *malleus* and *incus*, (“Stirrup,” “Hammer” and “Anvil” bones, indicated by their shape—see lower right-hand corner of plate) lie in the cavity of the tympanum. They form a link or chain system by which vibrations of the tympanum are communicated to the perilymph. It is impossible here to go to farther detail than to state that the vibrations in the inner ear are thus communicated to the sensorium through the “labrynth.”

IV.



Diagrammatic Illustrations of the Organs of Sight and Hearing.

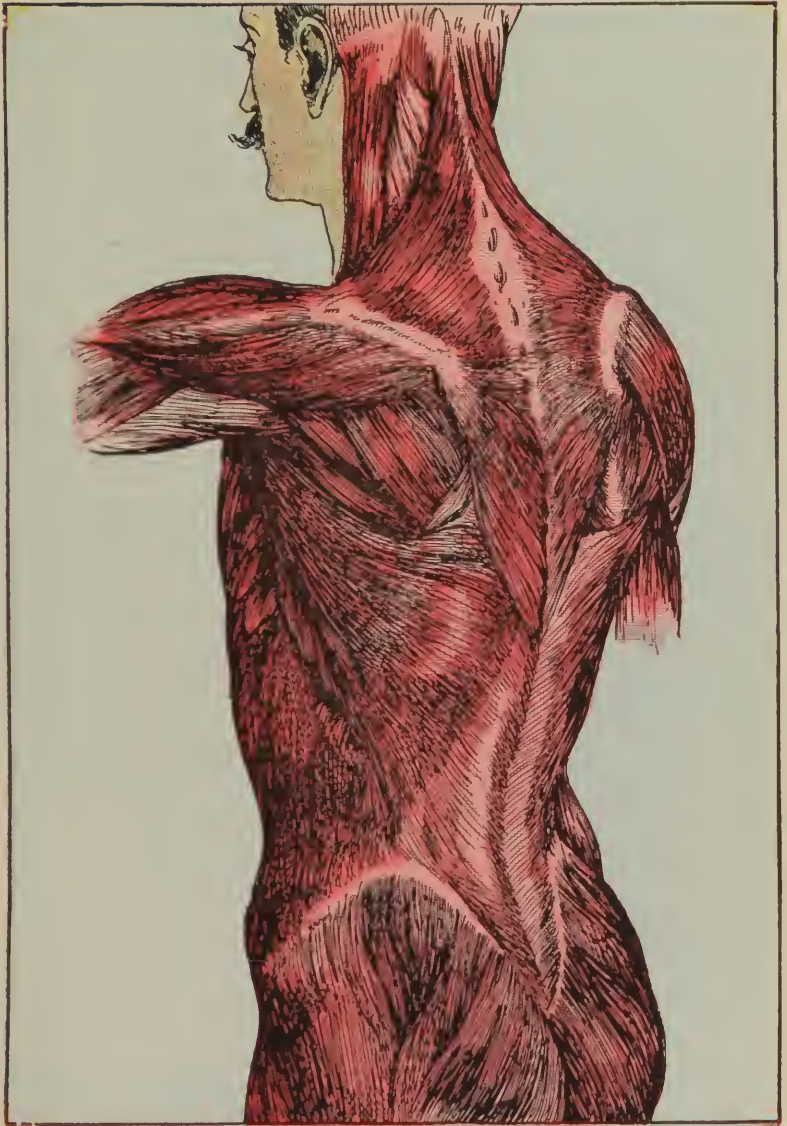
V.

The outer integument being removed, we find the elaborate system of the muscles of the back. The "first layer" is here shown. A few will be named, with their uses.

The perpendicular muscle shown in dissection at the left of the neck is the *Sterno-mastoid* and its use suggests itself as does that of the great *Trapezius* muscle connecting at the back of the head and extending down, between the shoulders. The muscle passing directly over the left shoulder is the *Deltoid* and serves to assist in extending the arm backward, as does also the *Triceps*, shown underneath the arm. The *triceps* also straightens the arm.

In this plate we cannot indicate plainly the *Teres minor* and *major*, and others, so pass to the large muscle extending from under the arm-pit spreading to the "small of the back." That is the *Latissimus dorsi* and its use self evident. The *External oblique* is that muscle which (in the plate) appears to extend from the upper chest on the side to the hips. The muscles of the rump are the *gluteal* muscles, the *gluteus medius* and *gluteus maximus*.

V.



First Layer of Muscles of Back.

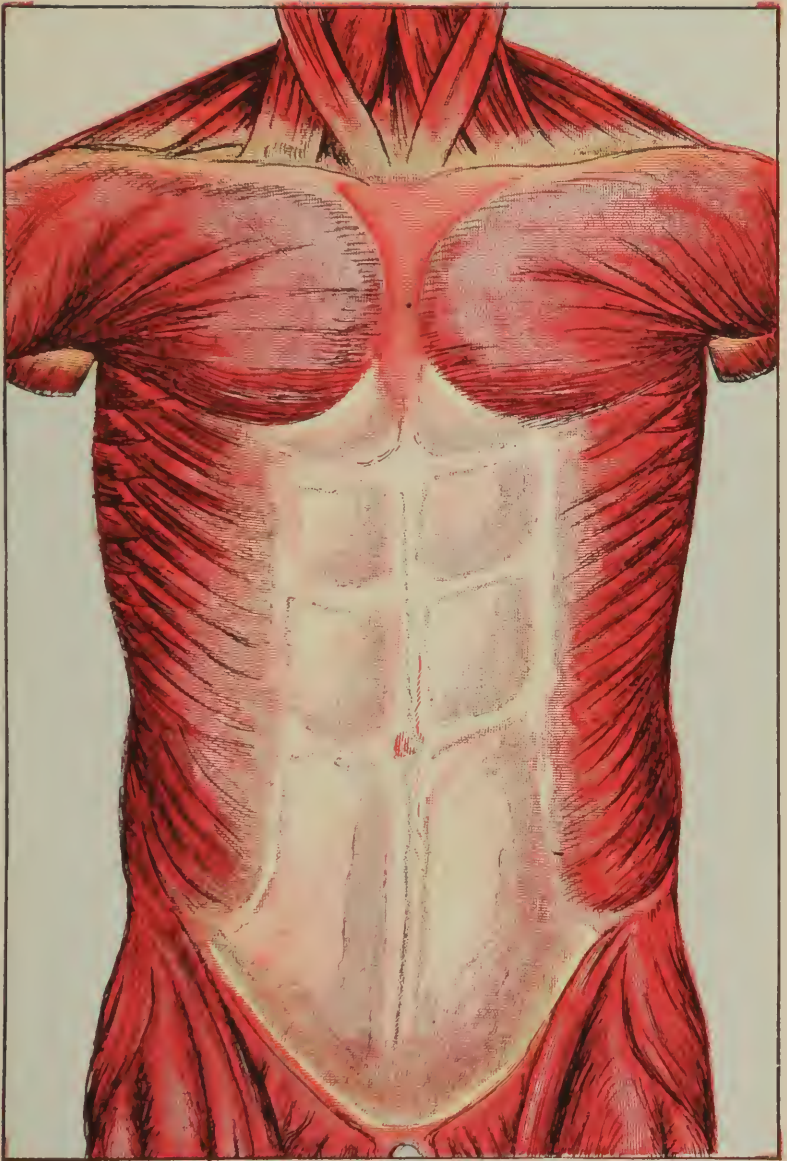
VI.

The muscular arrangement shown in this plate will be readily seen to balance or *compensate* those of the back. That is, provision is made in the muscles of the neck to balance the *Trapezius* muscle of the back. The *pectoral* (or chest) muscles and *external oblique* muscles of the abdomen also act as balances to the corresponding muscles of the back.

It requires but little knowledge of mechanics to see the uses and wisdom of these muscular arrangements.

Of course, it will be understood that in this and the preceding plate only the *external* muscles are shown and that they are but a covering to other and complex muscular devices enabling the body to be moved in whole or in part in almost every conceivable direction.

VI.



First Layer of Muscles of Front. (Diagrammatic.)

VII.

This diagram is intended to give a general idea of the contents of the trunk, omitting the intestines. The anterior portions of the left lung and left kidney are represented as being removed.

In the upper part of the plate, of course, are shown the heart and lungs, showing the *Aorta* or great distributing blood-vessel of the body. Below and on the right side is seen the lower portion of the liver, to the left of which is the stomach cut open to show its interior. The left kidney (cut across) is seen under the stomach and the right kidney in its entirety is on the other side. From the kidneys the two *ureters* lead to the bladder, shown as a round vessel at the bottom of the plate.

The *iliac artery* and *iliac vein* are the prominent red and blue "forks" above the bladder. To the right and left are the muscles of the pelvis, and on either side, below, the bones of the pelvis and heads of the thigh bones.

More on the heart, lungs and other organs will be found in succeeding plates.

VII.

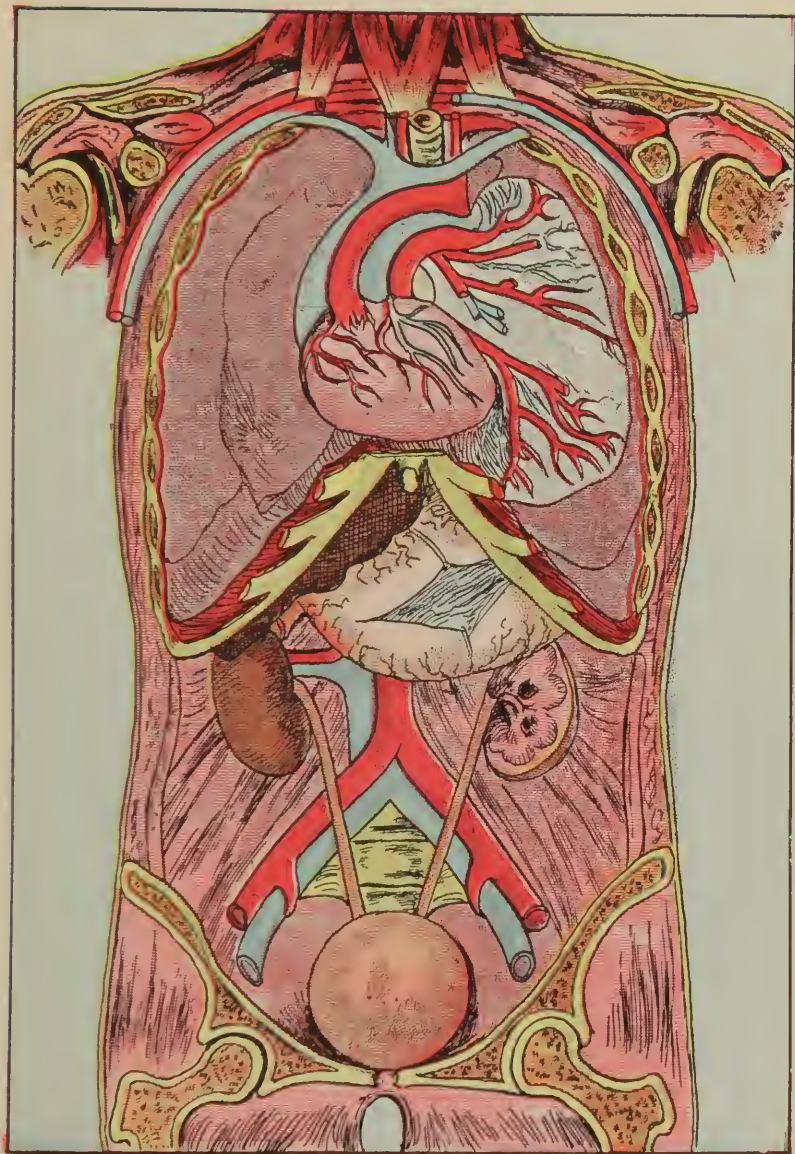


Diagram of Interior of Trunk with Intestines Removed.

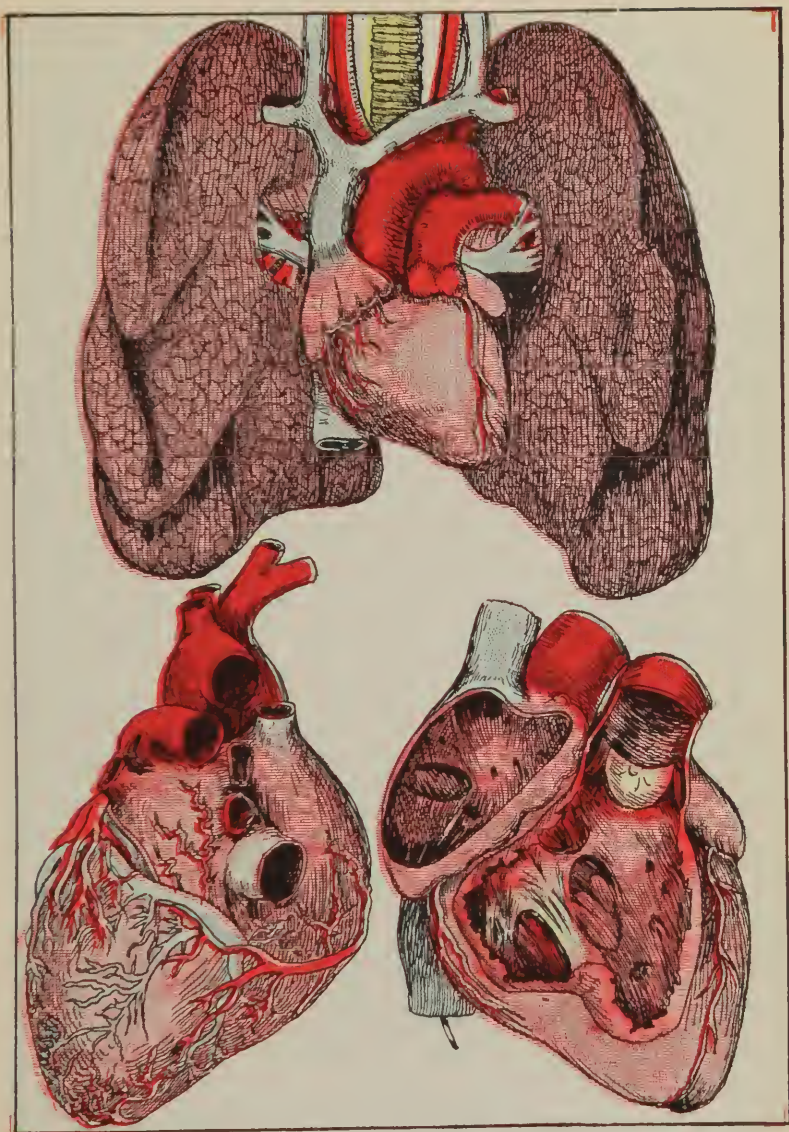
VIII.

THE LUNGS are the essential organs of respiration and occupy the lateral cavities of the chest, separated from each other by the heart and other contents of the *mediastinum*. Their functions are well known and it is only possible to say, in this limited space, that in *inhalation* they bring the blood in sufficient contact with atmospheric air to *oxygenize* it, and in *exhalation* they throw off carbonic acid gas and much refuse matter carried to them by the venous blood.

THE HEART is the organ which serves as the distributing engine of the blood and is placed obliquely in the center of the chest cavity, the apex being pointed to the left, downward. It is divided into four chambers, the right and left *ventricles* and the right and left *auricles*. In the right *auricle* blood is received from the circulation and passed to the right *ventricle* which, in contraction, sends it through the lungs, where it becomes oxygenized and returns to the left *auricle* and thence to the left *ventricle*, from which it is again passed to general circulation. It will thus be seen that each complete pulsation of the heart really means the accomplishment of four operations.

The heart, like other organs, must have a supply of arterial blood, which comes from the *coronary arteries* arising near the commencement of the *aorta* as shown in the plate.

VIII.



The Lungs and Heart.

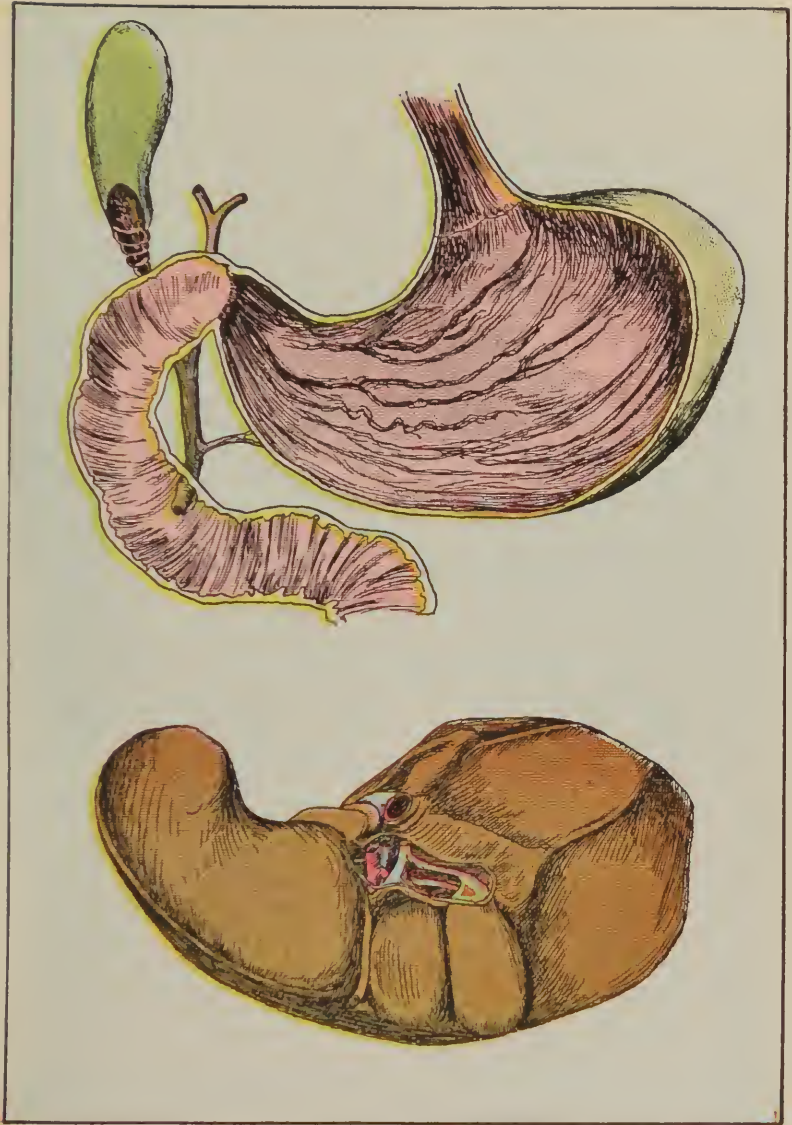
IX.

THE STOMACH is the principal organ of digestion and in form is irregularly conical, curved upon itself, with a rounded base turned to the left side. It is situated just behind the anterior wall of the abdomen, below the liver and diaphragm. Its mucous lining is very delicate with multitudes of glands opening upon its surface. These glands throw out a thin, acid fluid called *gastric juice* when food is passed into the stomach. When the stomach is empty, its mucous membrane is pale and hardly more than moist, but the entrance of food causes *gastric juice* to flow and the action of muscular walls of the stomach mix the food thoroughly with that juice. That operation constitutes the first stage of digestion and assimilation.

THE LIVER is a constant source of loss and, in a sense, gain to the blood which passes through it. Loss, because it separates a peculiar fluid, the *bile*, from the blood, and throws that fluid into the intestine. Also it elaborates a substance, *glycogen*, in large or small quantities. This latter substance readily passes into sugar and so is carried off by the blood.

The liver is the largest glandular organ in the body and ordinarily weighs about fifty or sixty ounces. The *bile* secreted is stored in the *gall bladder* which is shown, with its duct, in the picture of the stomach.

IX.



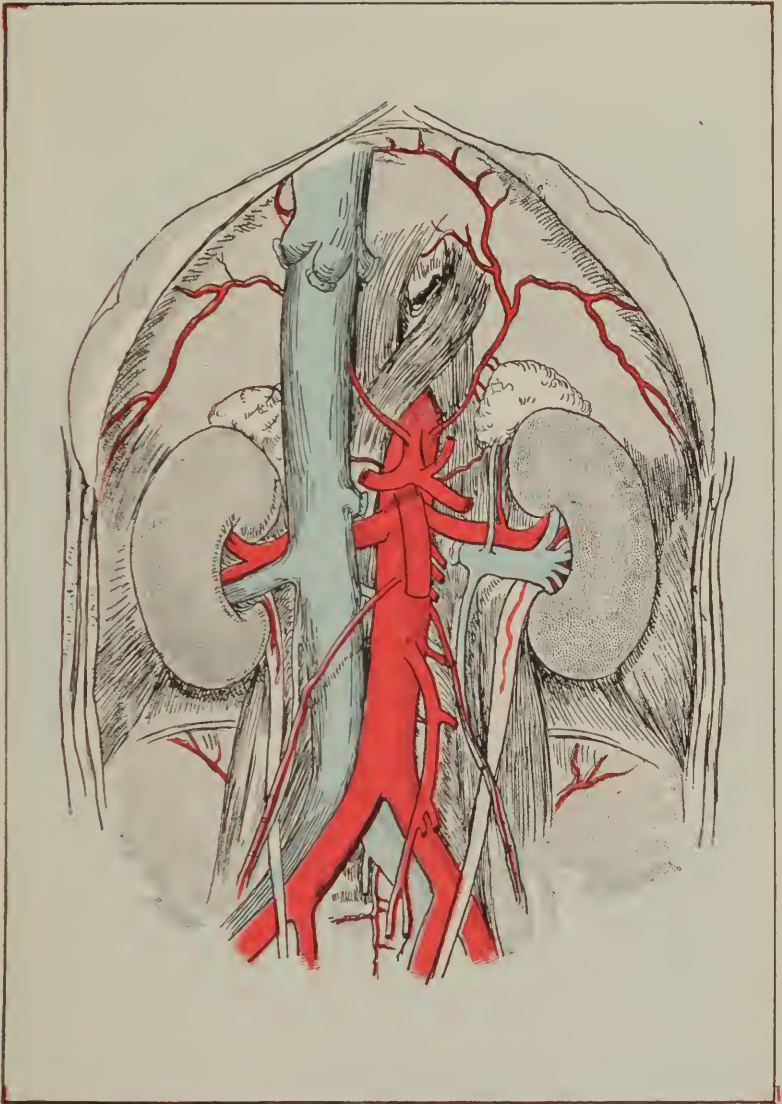
The Stomach and Liver.

X.

This plate is designed to give an idea of the downward circulation. The great abdominal Aorta is shown in red, with its branches. The *renal* arteries supplying the kidneys on each side and the two *iliac* branches below.

In blue is shown the *vena cava inferior* with the *hepatic* veins (tied) at the upper portion of the plate.

The *renal* veins are also shown, returning from the kidneys.



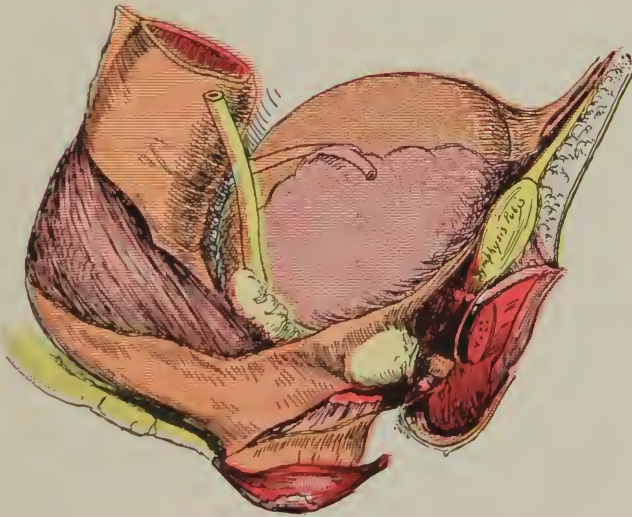
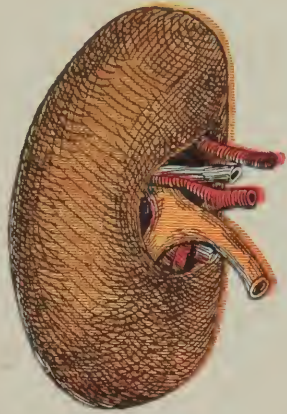
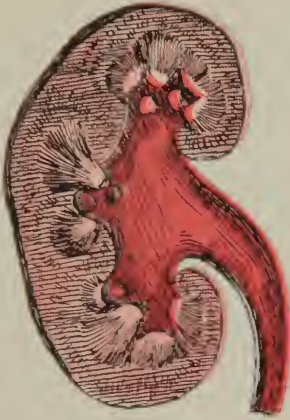
Abdominal Aorta and Branches.

XI.

THE KIDNEYS are for the purpose of separating from the blood certain waste materials and water, the solution so formed being passed to the bladder for evacuation as *urine*.

The characteristic form of the kidneys is shown by the plate, and their situation in the body is in the back part of the loins, one on each side of the spinal column, surrounded by fatty and loose tissue. In the picture shown as a whole kidney, the arrangement of the branches of the *renal* arteries and veins and the *duct* are plain. In the divided kidney is shown the internal glandular arrangement.

THE RECTUM is the termination or lower part of the intestine and is shown here for the purpose of making plain its relation to the urinary bladder, which is seen directly in front, partly covered by the *Peritoneum*. The *ureter* is seen entering the bladder near the center of the picture.



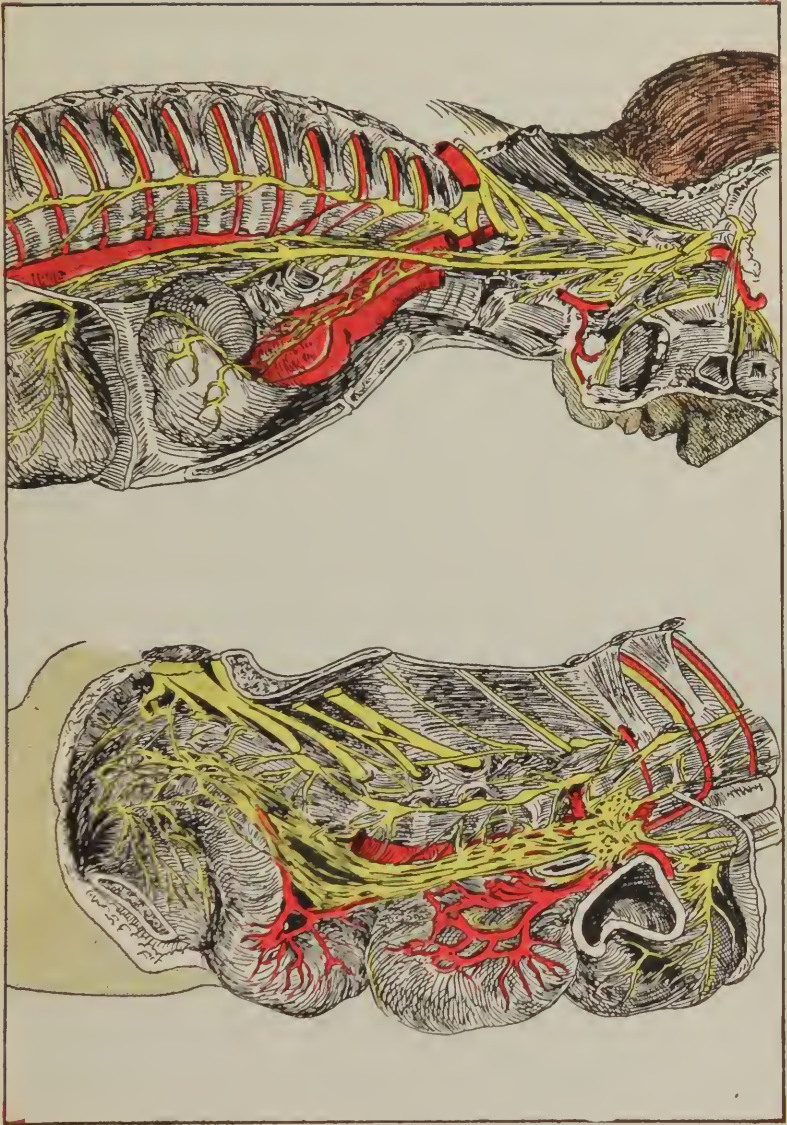
Kidney.

Rectum and Bladder.

XII.

The plate here printed is designed to show the so-called "Sympathetic Nervous System" and explains itself. The light yellow lines represent the sympathetic nerves and ganglia.

XII.



Plan of Part of Sympathetic Nerves.

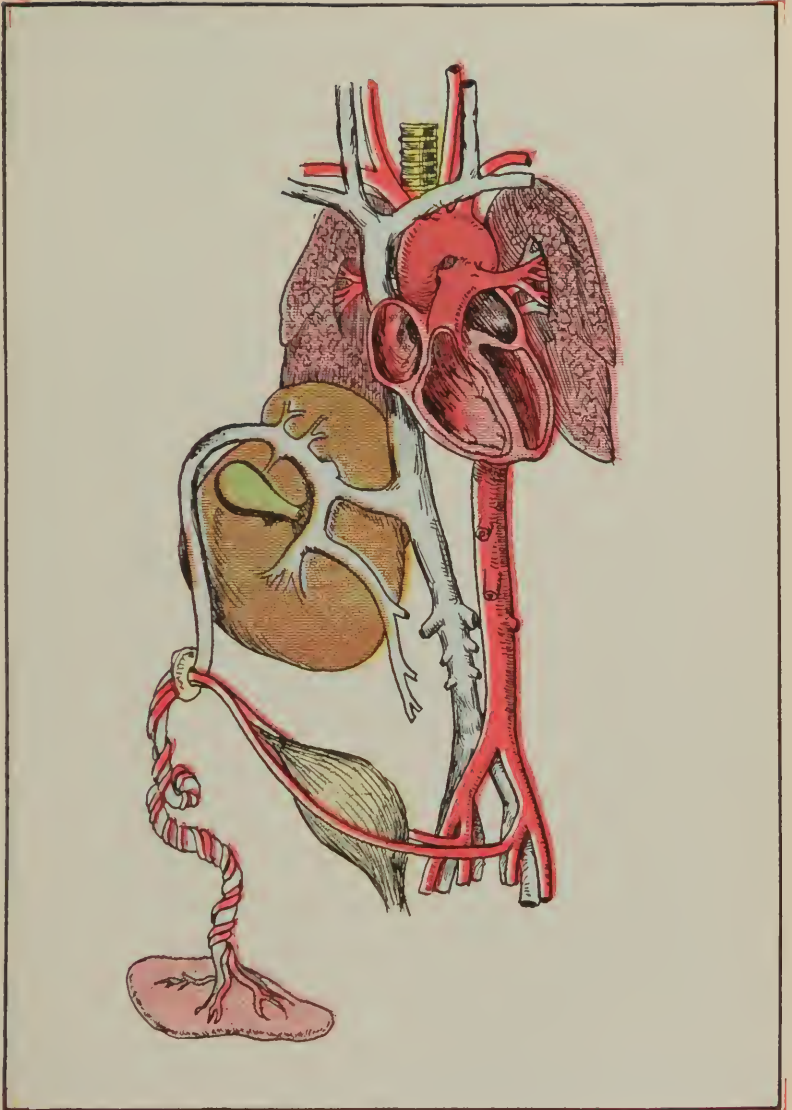
XIII.

This diagram illustrates the circulation of blood in the unborn child. The chief peculiarities of the foetal heart are the direct communication between the two auricles through the *foramen ovale* and large size of the eustachian valve. The size of the heart is also very large in proportion to the body.

The *placenta* is shown at the lower left hand corner of the plate. From this blood is taken for nutrition, along the *umbilical* vein. Nearly all of it passes through the liver before reaching other parts of the body. Very little reaches the lungs, which are nearly impervious and, of course, not used.

As is shown in the plate, the blood is returned through the *umbilical* artery to the placenta.

XIII.



Plan of Circulation in the Foetus.

XIV.

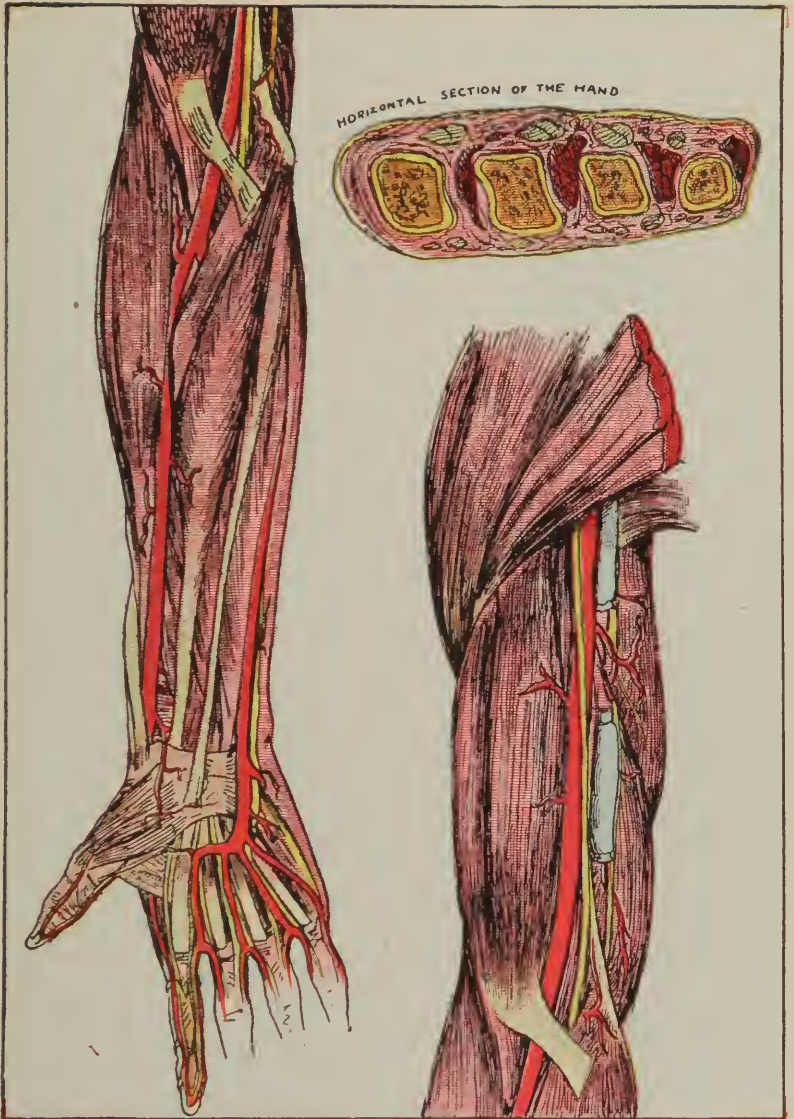
The bones of the arm are the *humerus*, extending from shoulder to elbow, and the *ulna* and *radius*, forming the forearm. The manner in which they are joined or *articulated* is such as to enable motion of the hand in almost any conceivable direction. Of course, the arm is mainly used as the servant and power of the hand.

This plate shows the *deltoid* muscle at the shoulder and the *pectoralis major* muscle next cut in two. Below is the well known *biceps* muscle. The large artery is called the *Brachial artery* and by its side is seen the *median* nerve.

In the forearm are found those muscles which move the fingers, wrist, etc., and it is not possible to explain their positions and names within this space without numerous plates which are quite unnecessary in a work of this kind.

A section through the middle of the hand is shown.

XIV.



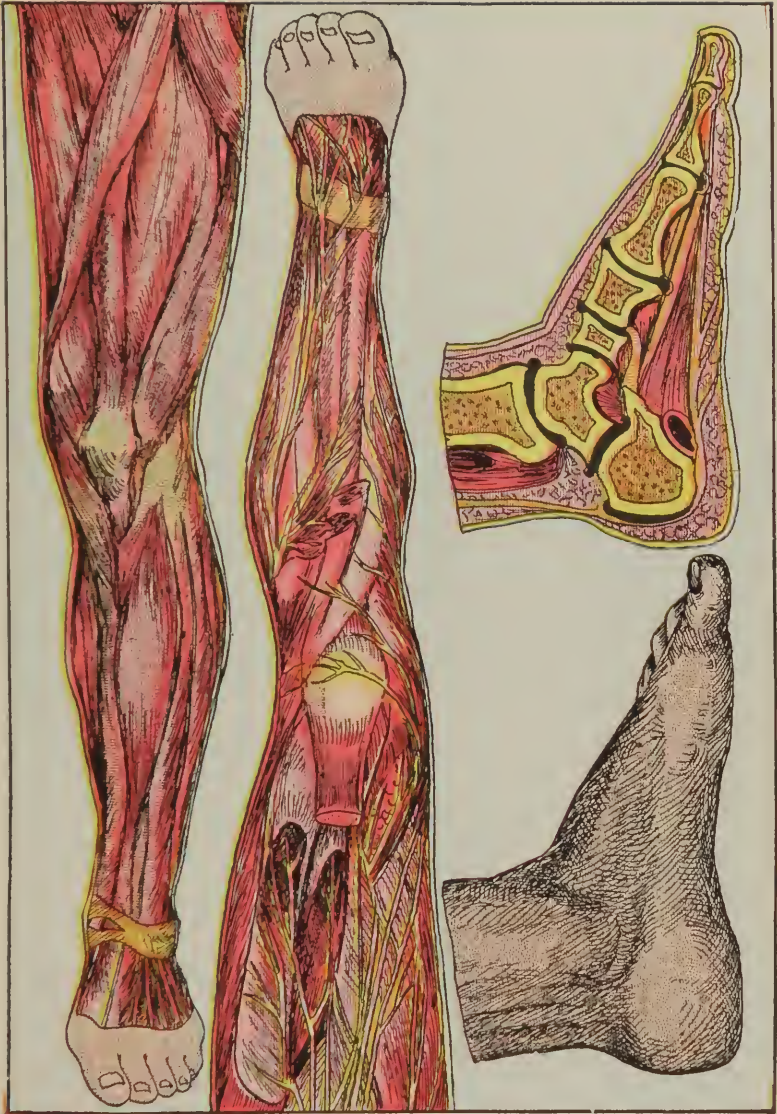
The Arm.

XV.

This plate illustrates in the left hand figure the outer muscles of the leg, showing quite clearly the muscles of the thigh, lower leg and the *annular* ligament of the ankle.

The next figure shows the outer muscles cut away, exposing the inner and more complex organism.

The figure of the foot shows very clearly the arrangement of the bones. It will be seen that the weight of the body rests nearly on an arch, and, as there is "spring" to the arch there is consequent elasticity to the step.



The Leg and Foot.

XVI.

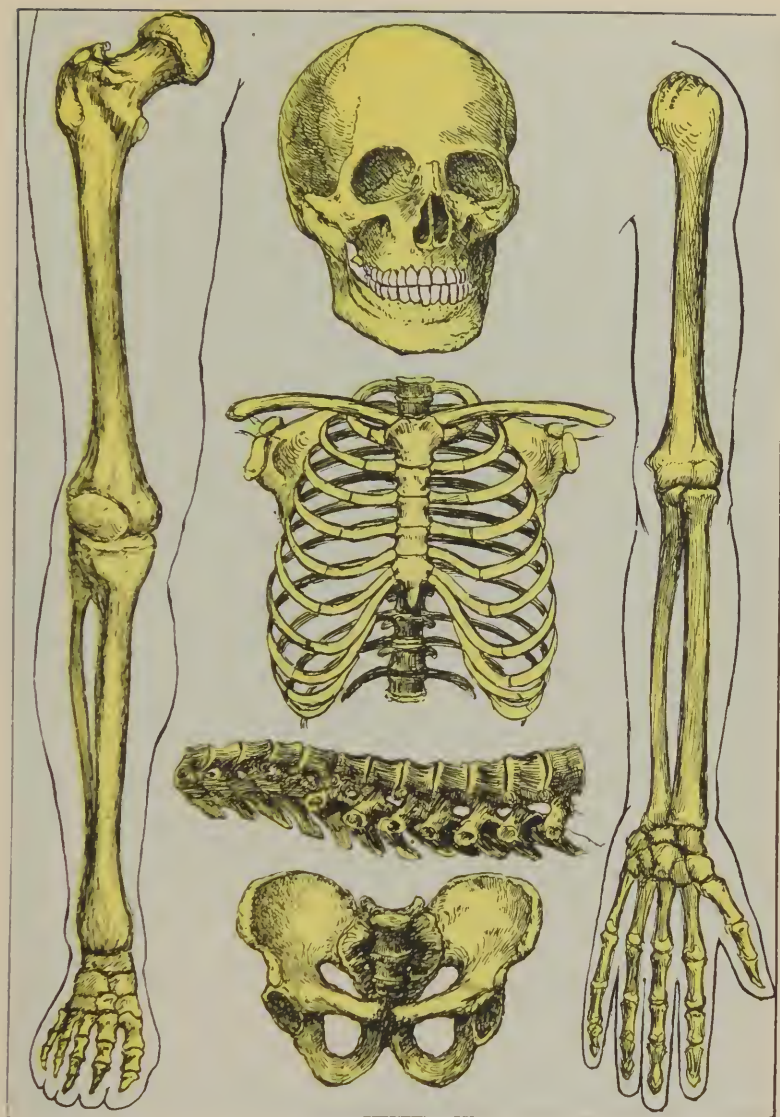
This plate gives a general idea of the principal bones of the body. The skull, arm, leg, hand, foot, trunk, pelvis and a section of the spinal column are shown.

In the entire skeleton are two hundred distinct bones. These are :

The spine (including the two lower bones, the sacrum and coccyx).....	26
Cranium.....	8
Face.....	14
Hyoid, breastbone and ribs.....	26
Upper extremities.....	64
Lower extremities.....	62
<hr/>	
Total.....	200

No account is here made of the teeth and it may be mentioned that some bones are counted as one, which were in early life quite distinct and separate.

XVI.



The Bones.

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A PHYSICIAN IN THE HOUSE.

OUR POSITION.

The People and the Medical Profession.

"ALL that a man hath will he give for his life," are words attributed to the Evil One, planning the destruction of Job. And, although recorded thousands of years ago, the truthful text has ever since been utilized as the key note for medical extortion and for legalized misrepresentation.

Poor Job was delivered to his torturer with the remark, "Behold, he is in thine hand; but save his life." How well known is it that even in this day the average physician demands that those very words, or their equivalent, must be uttered or conceded in spirit when a patient is committed to his care. Perhaps the demand would not be unreasonable were physicians ideals of knowledge and of integrity, and superior to mercenary temptations. But, alas! how few such physicians bless humanity!

Annually, thousands of newly-fledged doctors are licensed to struggle for existence and to strive to profit by the credulity and misfortunes of their fellow beings; with no evidence of knowledge but "sheepskins," obtained from colleges anxious to increase their patronage by enlarging their lists of graduates regardless of their morals and their attainments. Fortunate might it be for many communities were their physicians compelled to abandon their occupation, and leave the common sense of the people to protect their bodies against disease.

This is an age of reasoning and of comprehension. Mystery is being swept away and simplicity is rapidly taking its place. Men and women of to-day intelligently consider questions which a generation ago were considered within the exclusive domain of scientists. We are becoming a race of philosophers—doing our own thinking, weighing our own problems, and largely acting for ourselves in all things concerning our personal welfare. Long ago were broken the chains which held humanity under the thralldom of priestcraft in matters of science and of religion. Scientific men no longer hide their light under a bushel or secretly guard their discoveries. Instead, they widely publish all they know and all they believe; that the world may be benefited. And in religion no talent or labor or expense is spared in striving to make plain to all, even to the poorest and most ignorant, the things believed to be for the blessing of humanity, here and hereafter.

But in medicine, how different! More and more do the members of the fraternity seek to conceal by a maze of technicalities and mysticisms the facts which should be given to the world gratuitously. More and more intricate is caused to appear the study of the human body and the application of remedies to disease. As the people become familiar with methods and means of cure, those methods and means are discarded by the medical fraternity and pronounced worthless. In their places are adopted so-called discoveries and specifics, concocted in microscopical and chemical laboratories, which the people are not expected to comprehend.

It is declared impossible to properly diagnose disease without a previous bacteriological education; and impossible to combat it without the employment of methods and means which are safe only in the hands of "experts." Expensive antitoxines and bactericides and germ-destroyers are imported from over the seas, and hypodermically administered according to elaborate rules incomprehensible to the laity. The vilest of animal extracts and the most virulent of poisons, which in the nature of things are stamped to destroy, are declared to become the greatest of health

restoring substances when administered by the scientific hands of a regularly licensed physician, whose fees, for curing or killing, are collectible by law.

The acquisition of authority and the exclusive privilege of controlling the bodies of others for mercenary purposes, appears to be the chief aim of the medical fraternity. To aid in accomplishing their designs, by deception and wily subterfuge, they have secured the enactment of unconstitutional laws and the appropriation of State funds to be placed at their disposal. Thus have they established and do they maintain one of the most gigantic trusts that ever cursed a free-born people.

Medical monopoly is the last remnant of mercenary priestcraft to thrive upon mankind's afflictions and misfortunes. But its chains, forged centuries ago by ignorance and superstition, have gradually weakened by the continuous strain put upon them by education and enlightenment. Tighter and tighter does it seek to draw those weakened chains, and greater and greater grows the resistance afforded by increased public knowledge. Before long the fetters must give way, and humanity will be free to enjoy the liberty of striving to know all things and of exercising the right of self-preservation.

To add to the bulk of public knowledge, to help make possible the complete severance of the chains of medical monopoly, and to give to all the power of holding their lives in their own hands, is the aim of this volume.

The Author's Statement.

This book has been written in plain language, that all who read may understand; and technicalities have been avoided unless accompanied by common terms. Diseases have been mentioned in alphabetical order; and the descriptions of the diseases have been made as short as is consistent with their proper presentation. The subject of hygiene has been given especial attention; and the rules for proper living and for the preservation of health have been written with great care and with a full knowledge of their importance.

An especial and a most important feature of the

book consists in the methods advised for the treatment of diseases. No poisonous drugs of any kind are recommended for internal use; and only such remedies are advised as are capable of aiding the vital force in its struggle against disease. Poisons, by their inherent nature, are calculated to injure and to destroy; and whatever benefit they may seemingly accomplish in the treatment of disease, can be more quickly and better accomplished without them. They may, under some circumstances, force the system to action; but they invariably weaken the constitution; and even if they should apparently prove beneficial at times, the danger and uncertainty accompanying their use should forbid their employment in the household. Therefore, all the agents endorsed in this book for internal use are absolutely non-poisonous. They have been tried and proven efficient throughout an extensive practice covering many years; and they are confidently recommended as safe and reliable.

In the section devoted to miscellaneous articles will be found an amount of useful information which will prove invaluable for both old and young. Many of the facts and deductions given are the results of extensive experience and laborious investigations, and the purpose of presenting them is to add to the fund of general knowledge and to aid in the betterment and happiness of those who will accept their truths.

In the compilation of this book the author has constantly kept in mind the fact that those who possess it will, in a great measure, depend upon its information and instruction in times of sickness and emergency. The consciousness of this responsibility has prompted his endeavors to plainly and fully present his views upon the best means of preserving health and the most successful methods of overcoming disease. It is earnestly hoped that those who purchase this volume may learn to value its information and to follow its instructions; and that on account of its possession they may realize a sense of security in having "A Physician in the House" worthy of their fullest confidence.

LIFE AND ITS PRESERVATION.

HOW WE LIVE AND GROW.

Minute Structures of the Human Body.

The structures of the human body have long been a study for scientists as well as physicians, and in these modern days anatomy and physiology have become essential parts of a common school education. As the aids to investigations improve, knowledge correspondingly advances. With the use of the microscope most marvelous revelations have been made in the domain of science, and no investigations are of more profound interest or more directly beneficial to mankind than those pertaining to the minute structures of the human body, known as the study of histology.

Protoplasm or Bioplasm.

Either one of these terms is used to designate the smallest particle of living matter discernible under the microscope. The preferable term, which we will employ, is Bioplasm, from the Greek word *bios* (meaning life) and *plasma* (meaning form or basis). Bioplasm, then, is the most minute starting point, recognizable, of anything that has life, whether vegetable or animal; though commonly the initial material of animal life is inferred when the term bioplasm is used. This term in plain English denotes germinal or living matter, and these words—bioplasm, germinal matter and living matter—will be used synonymously in this article.

Physical characteristics of germinal matter may be studied in the highest and lowest organisms, and as far as we are yet able to ascertain, even under the highest microscopical powers, they appear to be precisely the same, no matter what the grade of life they may belong to. There are no distinguishing features to enable us to differentiate between bioplasm of fungi, plants, animals or human beings. Should we view under the microscope a particle of living matter without knowing whence it had been obtained, it would be impossible to decide what form of tissue it was intended to produce—whether it were destined to form blood, or bone, or muscle, or fibre of plant or of animal.

There must be differences in particles of germinal matter obtained from various sources; for what will nourish and sustain one kind will absolutely destroy another kind. A temperature indispensable to the life of one kind may be quickly fatal to another kind. And, again, an evidence of differences in various kinds of living matter is demonstrated by the fact that bioplasm will produce bioplasm only after its particular kind—the germinal matter of a plant will never produce germinal matter of an animal; and the germinal matter of a particular species of animal will not produce germinal matter peculiar to the organism of another species.

But, as yet, no aids have been devised for rendering our senses capable of differentiating bioplasm. We are absolutely certain that differences do exist, but we can distinguish those differences only by recognizing the varied natures of the results produced by bioplasmic action, and we conclude that those varied results are due to differences in inherited powers which we cannot isolate.

When examined by the aid of the highest known microscopical powers, bioplasm, or germinal matter, appears as an insignificant, shapeless particle of transparent, jelly-like matter, absolutely devoid of structure. Should the observations be continued any length of time under favorable surroundings, such as the provision of the particular temperature and other environments required by the grade of bioplasm under

examination, it will be seen to be in continuous motion, and that motion is spontaneous; that is, it is not provoked by any outside influences, but is controlled by power seemingly within the particle of living matter; and these characteristics are manifested at every period of its existence, and they cease only when bioplasm dies and ceases to be living matter.

Anyone can study these peculiarities of bioplasm, by the aid of a microscope, by examining the simplest forms of living matter known, which are termed *amœbæ*. These can be obtained by placing a very small portion of animal or vegetable matter in a glass of luke-warm water and exposing it to light and warmth for a few days, and then using a very small particle of the thickened liquid. A little blood-serum may be easily obtained from the finger for the purpose.

When properly obtained and prepared, *amœbæ* less than one one-hundred-thousandth (1-100,000th) of an inch in diameter will be seen in most active movement in every direction, constantly altering their shapes in outline and thickness, and absorbing surrounding material suitable for nourishment. These actions continue under favorable circumstances for an indefinite length of time. But under unfavorable influences, such as improper temperature, unsuitable surrounding material, etc., the actions become very slow, and gradually cease altogether, each separate *amœba*, or organism, becoming spherical, and forming on its surface a soft covering, which becomes a firm protective envelop, within which the germinal matter, if not killed, is preserved until the return of favorable conditions, when it emerges and grows and gives rise to new *amœbæ*; and this process can be kept up indefinitely, provided the surroundings never depart too far from what are naturally required.

Observations on corpuscles of mucus are very interesting. These corpuscles are found in the ordinary mucus of the air passages of the nose and throat. Corpuscles of mucus are oval or spherical, transparent or granular, and composed of matter almost diffuent. No language can convey a correct idea of the changes which take place in the form of living cor-

puscles of mucus as observed under the microscope under favorable conditions. Every part of the substance exhibits distinct alterations within a few seconds. The material in one part may move to another, and the relationship of component particles never remains the same an instant. But with all the disturbances and alterations manifested there are no regularities of movement. Were it possible to take hundreds of photographs, at the briefest intervals, no two would be alike. The outline of each particle changes in many parts and in many directions at the same time, so that there is no definite appearance to the particle.

An entire corpuscle may move onward, protrusions may occur at one end and the general mass may follow. From the first protrusions smaller ones occur, which become pear-shaped; these may remain attached by a narrow stem for awhile and then again run into the general mass. Occasionally some spherical portions are detached from the parent mass and become independent masses of germinal matter, which grow into ordinary corpuscles of mucus. Thus every kind of bioplasm is multiplied. From many observations it seems probable that the same class of movements may be seen in every kind of living matter, whether of plant or animal, as may be seen in mucus or in *amœbæ*.

Bioplasm being the limit of recognizable matter, under the most powerful microscope, and no differences of bioplasm being apparent to differentiate a vegetable from an animal, or one genus or species from another, we can but realize that the differences exist in inherent characteristics.

Vegetable and Animal Cells.

Every organism, whether plant or animal, has connected with it, as a part of itself, matter that is not living. The lifeless shell is evidently a part of the oyster, and it increases in dimensions by new matter being added to it by the living organism. In man the free portions of the hair and nails, the outer part of the cuticle, and a portion of the tissues of the teeth are evidently lifeless; and the waste of these is

largely compensated for by the addition of new matter formed by the living particles. But by an unknown process the non-living food is absorbed and made a part of the living matter, and then converted into the lifeless formed material which is thrown out to surround the living matter.

All tissues and fluids of plants and animals are composed of many cells, which are particles of living matter surrounded by formed material, and the vast differences in the tissues and fluids are due to the differences of the formed materials. The oldest formed material is on the outside of the cell and the newest surrounds the living matter.

Living or germinal matter, that which is constantly in motion under favorable circumstances; formed material, that which has no life and has been previously formed from or by living matter; nutrient material or pabulum, otherwise food or nourishment—these are the only terms required in describing the development, formation and growth of any tissue, the production of all the secretions, and of the varied phenomena peculiar to living plants or animals of whatever nature.

In everything that has life we may find matter in three different states, namely: Matter about to become living, matter actually living and matter that has lived. The last mentioned form of matter possesses characteristics by which we know that it has lived; for we can no more cause matter artificially to exhibit the characters of the dried leaf, the lifeless wood, shell, bone, hair or other tissues, than we can make living matter itself by laboratory apparatus. The process of cell growth or increase or multiplication in every case depends upon the bioplasm or germinal matter only. The differences in cells, and their formed materials which go to make up such a variety of organic tissues and fluids are due to differences in the powers of bioplasm or germinal matter. Just why and how particles of germinal matter, with no apparent distinguishing characteristics, can convert pabulum or nourishing substances into varied forms, and each form be adapted to its peculiar position and use, are problems so deep that the human

mind has so far been unable to fathom them according to modern science.

Death of Bioplasm.

When the life of a mass of bioplasm or germinal matter is cut short, by improper environment or other circumstances, lifeless substances having individual and peculiar properties result. These substances belong to four different classes of bodies: (1) Fibrin, which separates spontaneously soon after death; (2) albumen, which is coagulated by heat and nitric acid; (3) fatty matter, having a point of solidification; (4) salts.

Once dead, bioplasm or living matter ceases to be such, and is resolved into other things. But the things which are formed as the result of the death of bioplasm cannot be put together again to re-form bioplasm. They may be taken up by other bioplasm and so converted into living matter, producing a different kind of formed material. But the bioplasm that existed once and then died cannot exist again as such. All bioplasm or germinal matter must die, but re-living is, as far as we know, impossible, and scientifically it is inconceivable. A crystal may be dissolved and new crystals formed, with precisely the same characteristics, but a particle of bioplasm can no more be dissolved and re-formed than a man can be dissolved and then formed anew. The difference between living matter and lifeless matter—between bioplasm and the things which result from its death—is absolute. The change from one state to another is sudden and complete. The steel of which a magnet is composed can be unmagnetized and remagnetized as often as may be desired; but when living matter has been destroyed by death it cannot be revitalized.

Concerning the origin of bioplasm we have no knowledge or experience, and all theories regarding its origin must ever remain as theories, as there are no means of establishing any one of them. But all evidence teaches us that from the first beginning of life, bioplasm has proceeded from bioplasm; and the spontaneous formation of bioplasm direct from non-living matter is impossible even in thought, except to

one who counts as absolutely nothing the facts of physics and chemistry, and is perfectly blind regarding the phenomena of the living world transpiring about him.

A mass of bioplasm exposed to certain special conditions (which conditions vary with every kind of bioplasm), grows, divides and subdivides in multitudes of masses. Each of these grows and subdivides in the same manner, until vast numbers result. By these apparently similar masses of bioplasm, different tissues, organs and members are formed; and at length all the complex and elaborate forms of apparatus which make up the body of a living being result. These organs and structures perform their appointed work for the appointed time; they then decay, and are resolved into formless matters of interest to the chemist as well as to the anatomist and physiologist.

The body of a living animal is composed of many tissues, of varying characteristics, performing very different acts, and designed from the first to fulfil very different purposes, as proved by the fact that each working tissue has to pass through several stages of formation, during none of which does it work or serve any useful purpose whatever. But the stages of inaction were necessary for its construction; and the ultimate form it was to take, and the duty it was to discharge, must have been determined from the first, when it was without form, and when no one could have anticipated either the form it was to assume, the work it was to do, or even offer a reason as to why it existed at all. We can realize the existence of living matter, but we cannot conceive its origin.

Nourishment of Living Matter.

Every kind of living matter is said to be nourished when it increases and remains active. In order that the act of nutrition may occur it is necessary that the material constituting the pabulum or food should be brought very close to the living matter. A part of the active living-matter then moves toward the non-living pabulum or food. Throughout all its life living matter, or bioplasm, tends to move away from its center. Its particles seem to be impelled centrifugally

toward any nourishing material that may be in close proximity to it.

Whether or not the non-living pabulum is taken up and converted into the living bioplasm depends upon a number of circumstances which the living matter is utterly powerless to occasion, influence, control or modify. But the external conditions being favorable and the pabulum being very near to the living matter, some of the pabulum is taken up by the bioplasm, which communicates to certain of the non-living constituents its own particular properties or powers. Such essentially is the phenomenon of nutrition, which is universal in the living world, and which in fact consists of the taking up of the non-living matter by living matter and its incorporation with it. The non-living is made to live by the agency of that which is already living.

The manner in which pabulum or nourishing material is brought into close proximity or actual contact with bioplasm, or germinal matter, is very different in different cases. In man and the higher animals the operation is provided for by a highly complex apparatus deserving the most attentive study, and constituting one of the most wonderful of all natural performances. Should any part of the intricate structure of this apparatus be impaired or its action modified in any great degree, serious derangement of the nutritive processes result. Also by such modifications structural changes of the most important kind in organs of the highest importance to the life of the complex organism are occasioned. In the case of the simpler forms of life, such as fungous growths, etc., the pabulum or nourishment is brought into the immediate vicinity of the bioplasm, as it were, by mere accident. A breath of air, a drop of rain, may contain the appropriate food which will provide for the free growth of some of the simplest organisms, which increase and multiply in so short a time. Apparently without any effort or concern of the organism itself, all things needed for its development from bioplasm and its future growth are provided.

In mankind and the higher classes of animals most important organs and various structures aid in the

performances of functions which minister to the introduction of pabulum or nourishing material into the intestines, where innumerable particles of bioplasm are ever ready to take it up and grow and multiply by consuming the nutritious material it supplies.

The introduction of food or aliment is not suffered to depend upon reason or thoughtfulness. If the demand of food by the organism be not sufficiently and regularly satisfied, the sensation known as hunger is experienced, and when this becomes intense, every other desire, every other interest is in abeyance until the demand for food has been satisfied.

Distribution of Nourishment.

The food or pabulum having in the intestines been brought into close proximity to the bioplasm, it is taken up and appropriated by the bioplasm, which undergoes changes; a part of it dies, and some of its constituents, dissolved in water, pass into the blood, which flows in channels close to it. The apparatus and structures concerned in the distribution of the nutrient matter so dissolved to all parts of the human body, and the bodies of the higher animals and plants, consist of tubes so communicating one with another that the contained fluids may traverse them freely and return to the same point. This movement of fluid through the tubes throughout the body is termed circulation; and any influence or obstruction which interferes with the free and regular circulation of that fluid throughout the body, manifestly hinders proper development and tends to destroy the structures dependent upon nourishment for their existence, and death results. In man and the higher animals these tubes and certain organs connected with them, concerned in the propulsion of the fluid, are comprised under what are generally known as the circulatory organs; and the fluid which continues to circulate in the vessels as long as life lasts is called the blood, or nutrient circulating fluid.

Food is not simply dissolved and caused to pass into the blood, as would be inferred from the descriptions usually given; but millions of masses of bioplasm live and grow, pass through certain stages, and

die, yielding up the products of their death, to be taken up by other bioplasmic particles, situated in the walls of the vessels and in the blood itself.

The order of the changes occurring in the food taken by man and the higher animals may be enumerated as follows: *First*, nourishment or food; *second*, nutrient circulating fluid or blood; *third*, tissues; *fourth*, products of decomposition or decay; *fifth*, blood; *sixth*, excreted matter, unfit to remain in the proximity of bioplasm, and consequently to be dejected from the body.

But if man or animals take more food than their bodies require, the excess, after having been converted into blood, is excreted without being first converted into tissue. By overtaking these organs excess of food may thus cause serious derangement of important organs. And decomposition of food in the intestinal canal may destroy the bioplasm and hinder all nourishment.

Such, in a few words, is the explanation of the development of the human body and the existence of life. For the investigations made in ascertaining these facts we are indebted to the indefatigable labors of Dr. Lionel S. Beale, of England. And so beautifully and clearly has he written upon the subject that it would be impossible to improve upon his statements. These have been given with accuracy for the benefit of all who may be inclined to learn the facts of their own existence.

The same intelligence which caused the first formation of living matter has guided it to perfection; and the power which has developed the human organism with all its intricacies, has endowed it with the ability to preserve its existence and arrange and direct its perpetuity.

WHY WE DIE.

Thoughts on Prolonging Life.

When we examine the various tissues of the body—the bones and sinews and muscles and the blood itself—there seems to be no apparent reasons why they

should not endure forever, provided they were furnished with proper nourishment and given the surroundings most favorable to their maintenance. But they do not exist forever, and there must be reasons for the fact.

There is throughout nature a tendency for all complex substances to assume simpler forms. A plant develops from the seed, grows more and more complex in its composition and construction, until it reaches the height of its glory, and then begins to lose its beauty and eventually decays. Some plants complete their individual destinies in a few months, while others, such as the oak, may live for centuries. But during the entire existence of a plant some part of it is beginning to decay. Should we watch it spring from the seed we would notice the first or seed-leaves; and before long, when the plant has put forth other leaves, these seed-leaves will begin to shrivel and will soon drop off. It is difficult to find a plant of any size which has not some of its leaves or bark or roots partially or wholly dead. But in the healthy plant, the decay of these portions is counterbalanced by the growth in the living portions; and as long as this continues life exists. But when the process of decay exceeds the process of development, then death has set in, and it is only a matter of time until the whole plant or tree succumbs to the inevitable, and is dead. The processes of decay may by intelligent care be warded off a considerable length of time; but death having set in, nothing can stop it.

Human existence may aptly be compared to plant life in many respects. Decompositions throughout the body commence even in early life; but as long as these decompositions are counterbalanced by renewals of tissues, made possible by perfect nutrition, life will continue. But just as soon as the decompositions exceed the renewals death has commenced.

But what is old age, and why is it inevitable that mankind must die? To answer this question let us consider the development of the body from infancy to maturity, and follow it to old age. At birth and through early life the bones are, we know, soft and somewhat gelatinous. They are easily bended, and

throughout all that period of life it is proper that such nourishment shall be used as shall favor the consolidation of bones and other tissues within certain limits; for too early consolidation is detrimental to the attainment of proper physical proportions. Should children and young persons up to the time of their majority subsist upon such foods as will prevent consolidation, as will presently be mentioned, then growth would be favored and a large body will be the result; provided other circumstances and environments are favorable.

The bones have attained their full development, and growth of stature is usually attained, from the eighteenth to the twenty-first year of life. Up to that time the eating of such foods and drinking of such fluids as favor consolidation may be permitted; but after that time such articles are detrimental to health and favor early old age and death. And why? The reason is readily comprehended by a moment's reflection.

After the bones and tissues have attained such a degree of consolidation as will prevent their further growth, the continuance of consolidating foods and drinks will only tend to increase their consolidation, without their further enlargement. Such an action will manifestly result in a condition of abnormal consolidation which will gradually more and more prevent the proper performance of functions. The skin will become hardened and lose its elasticity and wrinkles will soon be manifest. The muscles will cease to respond quickly, locomotion will be slower, running will be laborious or impossible; and if consolidating foods are taken to excess, deposits will take place in the joints, causing stiffness, and probably rheumatic pains and deformities, if not uselessness.

The delicate tissues of the brain become more and more hardened, and manifest their inability to perform their natural functions properly, by loss of memory, absent-mindedness, and the hundred and one little peculiarities and eccentricities so often noticed in the aged.

The arteries themselves, and possibly the heart

also, lose their proper elasticity; and the circulation is correspondingly interfered with. Heart weakness is experienced, and nutrition is not carried to every part of the body as it should be. The dense structures of the scalp are among the first to show failure of nutrition, as evidenced by the hair losing its color or dying out. The eyes become unable to respond quickly to impression, and the muscles of accommodation are unable to control the adjustment of the lenses, causing farsightedness or presbyopia (sight of old age).

Knowing, then, the causes of premature old age, how can they be overcome? By studying the composition of foods, as laid down in the table of foods, and using our reasoning powers, it becomes possible for us to avoid those things which favor consolidation, and to select such a diet as will favor the elimination of solids otherwise deposited. Fruits in abundance, apples, pears, berries, grapes, plums, peaches, cranberries and similar articles, should be eaten freely. And as for drink, only pure distilled water should be taken. It is the great natural solvent and cannot be too freely taken after the age of twenty-one. Use such a diet and maintain proper exercise, and use the lungs and stomach as directed in the subsequent chapters of this series, and, barring accidents and injudiciousness, death will be afar off; and old age will be robbed of its hideousness, its wrinkled and shrunken body and its feebleness and infirmities.

HOW WE DIE.

Accidents, Disease, Changes of Tissue.

First of all, to avoid death, we must know what causes it, or rather in what manner does it come to human beings.

1. Death may be accidental.
2. Death may follow disease.
3. Death may be from changes of tissues.

The subject of accidental death need not be dwelt upon. In the first place death by accident is very

rare; and, in the second place, outside of carelessness, accidents are due to causes over which we have no control.

But disease is a subject which should be most carefully considered; for nearly all deaths occur during disease. By way of a definition it may be stated that disease is abnormal performance of bodily functions caused by obstructions, alterations or interference.

In health every function of the body should be performed with perfect ease; but when *dis-ease* is manifested in the performance of any function we know there is a departure from health, and consequently a tendency toward death. Let us classify simply the various causes of disease.

1. The effects of cold cause disease.
2. The improper use of the mind causes disease.
3. The abuse of the stomach causes disease.

1. The great majority of persons die from lung troubles of some kind, and these are always aroused by "catching cold." But the lungs are not alone sufferers from cold. A moment's reflection will demonstrate that many diseases follow exposures to cold. The surface of the body is a network of blood-vessels and minute canals—the latter serving to carry away an immense amount of waste material from the body. When the surface becomes chilled the superficial blood-vessels are contracted and prevent the free circulation of blood through them, throwing upon internal organs the excess of blood which crowds them and causes disease. In a similar manner cold contracts the pores and canals of the skin and prevents the proper elimination of the waste materials through them, throwing these poisonous substances back into the body for other organs to endeavor to eliminate in addition to their own burdens. Besides superficial cold, chilled air entering the lungs directly causes serious trouble.

2. That the mind has great control over the body needs no argument. In cases of disease a strong will power and determination to recover is of great benefit; and many diseases may be warded off by resolute confidence and cheerfulness. Likewise the mind has

power to cause disease. Moroseness will favor indigestion and all its ills; and anger will induce apoplexy; and passion will create nervous disorders; and in almost innumerable ways lack of cheerfulness and mental control will certainly result in disease.

3. The abuse of the stomach is one of the most frequent causes of disease. Improper food, impure food, too much food and bad drinking water, as are well known, invariably cause disease. What a train of diseases and an almost endless amount of suffering could be avoided by properly guarding the stomach against abuse! Man should at least be as able to properly choose his food as are the lower animals; and he is able to do so; but he usually prefers to allow impulse and desire to overcome judgment and natural intelligence.

Another most frequent cause of hastening death is the swallowing of poisonous substances under the name of medicine. This murderous custom was born during the dark ages; its philosophy is as absurd as its practice is dangerous. No "professional opinion" or division of substance can alter the inherent qualities of poisonous drugs. They by nature are calculated to destroy. During disease life may exist in spite of their administration, but never on account of it.

HOW LONG SHOULD WE LIVE?

The Average and Possible Duration of Existence.

The pages of ancient and biblical history make frequent mention of human life being extended over hundreds of years; and in modern times there is an occasional individual who passes the century mark. But the man who is now a hundred years old is looked upon as a marvel of longevity. And why? The Psalmist remarked that "the days of our years are three score and ten;" and, probably, with the usual misconstruction placed upon biblical sayings, those words have been accepted as a divine assertion that man should properly live no longer; and fulfills his destiny at the end of three score years and ten. Ac-

according to modern statistics an average human generation is about forty years; and should a modern psalmist declare that the days of our years are two score we could not doubt his truthfulness, but would at once realize his meaning.

But although the average life of man is now about forty years, it is far longer than the average of life a century ago. If we study statistics and history we will realize that in proportion as cleanliness and the laws of hygiene have been observed the life of man has been extended. Public hygiene in the way of sewerage, pure drinking water and municipal cleanliness deserves great credit for the prolongation of life. Could individual hygiene be as practically carried out as public hygiene has been, the results would be far greater. But public hygiene is woefully defective at present in spite of the great improvement over the past.

When we reflect that a large proportion of human beings in the large cities are too ignorant and filthy by nature to consider the subjects of cleanliness and hygiene, and that another large proportion of persons are totally indifferent to such matters, we cannot wonder that human life is so short. But could we exclude from the calculation the infants who die under five years of age, we would have a much greater average of life; for over one-fourth of all human beings die before they reach the fifth year of existence.

Taking 1,000 human beings:

263 die before the 5th year,
35 die between the 5th and 10th years,
18 die between the 10th and 15th years,
50 die between the 15th and 25th years,
62 die between the 25th and 35th years,
62 die between the 35th and 45th years,
89 die between the 45th and 55th years,
92 die between the 55th and 65th years,
148 die between the 65th and 75th years,
123 die between the 75th and 85th years,
56 die between the 85th and 95th years.

Leaving only two persons out of 1,000 to reach the

age of ninety-five years, and only one person out of 2,000 to reach 100 years of age.

Yet it is possible for man to live to be 200 years old; and the average length of life should be 100 years. This latter statement is based upon the fact that in all the lower animals the length of life is five times the number of years it takes for the bony system to become fully developed. Man is not fully developed until his twentieth year, and it is therefore natural that he should live at least one hundred years. And that he does not live to that time is due to his own neglect of his body and his disregard of the laws of life. It is a sad commentary upon the intellectuality of man to realize that the lower animals far excel him in obeying the laws of life and reaching toward the limits of life allowed them; barring their destruction by man.

It would seem that the first and most important subject for study to the human race should be "How can I live to fulfill my allotted time?" But experience goes to show that such a question, if at all considered is made secondary to nearly all other questions.

"Let each one sweep before his own door and the streets of Jerusalem will be clean," is an old saying and has an apt application in this connection. Let each one of us consider individual preservation of the body, and thus prolong our own lives and increase the general average.

THE ATMOSPHERE.

Its Composition and Its Influence Upon Life.

Pure air is an essential to good health and existence; it is man's natural environment and is furnished in abundance everywhere. Although, in some localities, frequently contaminated by poisonous gases and particles; yet, as a rule, air in free space is practically pure all over the globe. Just what constitutes pure air from a chemical and physiological standpoint has been frequently ascertained by scientific means, and has been shown to consist principally of two elemen-

tary gases, oxygen and nitrogen, mixed together in the proportion of oxygen about 20.93 volumes and nitrogen about 79.07 volumes. This does not include about one-half of one per cent of other gases, which, although exceedingly small in quantity, have their specific uses. Some authors state the composition of the atmosphere as follows:

Oxygen.....	20.93
Nitrogen.....	79.03
Vapor of water.....	Variable
Carbonic acid gas.....	00.04
Ozone.....	Variable
Nitric and nitrous acids.....	Traces
Ammoniacal compounds.....	Traces
Sulphurous and Sulphuric acids.....	Traces
Hydrocarbons.....	Traces
Suspended solid particles.....	Traces

Oxygen of the atmosphere is the great supporter of life and combustion; without it all animal life would cease; and in proportion as its percentage in the atmosphere decreases, health becomes deteriorated. Three-tenths of one per cent loss of oxygen would be calamitous. An increase of oxygen (provided other gases poisonous in character are not present) increases animal vigor and is proportionately conducive to health within certain slight limits.

Nitrogen has frequently been spoken of as the great dilutant of the atmosphere. Its presence is necessary to life, although of itself it could not support combustion. But without it the body would be consumed by its greatly increased activity. Nitrogen will not support life, but nevertheless its presence allows life to be supported by oxygen. Many physiologists claim that nitrogen is directly assimilated from the atmosphere to aid in the formation of the nitrogenous tissues of the body.

Vapor of Water is present in the atmosphere in variable proportions. The amount present depending upon the temperature. At a very high temperature

the atmosphere can hold a great deal of vapor of water in suspension; but at a low temperature it can hold but very little. When the atmosphere contains all the moisture it can possibly hold at a given degree of temperature it is said to be saturated, and the "*hygrometric condition*" or "*fraction of saturation*" of the atmosphere refers to the difference between the amount of moisture present and the amount the atmosphere is capable of holding at a given degree of temperature.

As a rule, the atmosphere contains between sixty and seventy per cent of the moisture or vapor of water it is capable of holding. When the percentage falls below that amount the air is too dry to be comfortable. This often occurs in rooms that are too close and are heated by stoves, without any means of adding moisture to the atmosphere. When the percentage of moisture is greater than normal in the atmosphere an oppressive sensation is experienced, especially at a high degree of temperature—the air being already so filled with moisture that the evaporation by perspiration from the skin is interfered with.

An over amount of moisture during cold weather renders the cold more piercing. In summer time it takes a great deal more actual moisture to saturate the atmosphere than is required in winter. This is simply illustrated in winter by opening an outside door from a kitchen filled with steam. The steam will not be visible in the heated kitchen, but as the hot air laden with moisture rushes out of the door and becomes chilled the moisture instantly becomes converted into visible steam and congeals into water.

Ozone is in one sense of the word a condensed form of oxygen, and acts in precisely the same manner as that gas, only more vigorously. It is the great purifier of the atmosphere—destroying fungi and disease germs and other poisonous micro-organisms. It is often formed during thunder-storms and frequently its presence at such times can be recognized by its peculiar odor. its increased quantity during thunder-storms is chiefly the cause of purification of the

atmosphere realized after such storms, although of course the absorption of poisonous gases by the rain and the precipitation of solid particles aid in the purification. Mountainous regions contain considerable ozone, which in a great measure renders such localities healthful and invigorating.

Nitric and Nitrous Acids are sometimes present, but always in exceedingly small quantities. They are usually formed by chemical actions taking place, and rarely equal in quantity more than one part in many millions, and then only temporarily.

Ammoniacal Compounds are formed by decompositions of animal and vegetable substances, and although they are very small in quantity their presence is important to vegetable life, they being absorbed by plants and assimilated to aid in the ripening of the seeds.

Sulphur Compounds are not found in the atmosphere of country districts; but in small quantities greatly diffused, their presence may be detected about cities and other places of manufacturing, where coal is consumed in large quantities. Such gases are never conducive to health. Occasionally, as in the neighborhoods of sulphur springs or artesian wells, the air may be filled with sulphuretted hydrogen gas, which is easily detected by its peculiar odor of "rotten eggs." The presence of this gas from such sources is not in anywise detrimental.

Hydrocarbons are usually products of vegetable decay, and are found in most minute proportions in the atmosphere about marshes; sometimes these compounds abound in the air of cities or localities where coal is burnt in large quantities.

Suspended Solids, in minute particles, are always present in the atmosphere, and although their actual percentage is small, yet they are the only constituents of the atmosphere which can be distinguished by the naked eye. By observing a ray of sunlight in a

room innumerable particles of suspended matter can be seen.

The character of these suspended solid particles varies greatly, and the proportions of the different particles are usually controlled by the locality. About the seashore an unusual amount of ordinary salt will be held in suspension; over deserts sandy particles are abundant, and lime and other mineral substances are often present. About factories and workshops many irritating substances are suspended in the air, and from marshes and unhealthful localities and sick rooms disease germs and many poisonous organisms enter the atmosphere; and it is a question whether or not these micro-organisms entering the lungs are the sole causes of disease. Certain it is that many irritating substances cause diseases of the lungs by their irritating properties. File works and nail factories have the air of their compartments laden with very minute particles of iron, which in course of time cause serious lung troubles by irritation.

While it cannot be disputed that small-pox, scarlatina, and similar diseases may be conveyed from one to another by germs or poisonous particles transmitted through the atmosphere, it has not yet been absolutely established that certain forms of diseases are caused by the agency of organisms in the air as many proclaim. But the spread of diseases from one locality to another are often in close connection with recognized air currents.

Poisonous Substances in a finely divided state may be disseminated through the compartments of a dwelling from sources little suspected. The arsenical coloring materials used in green wall-papers and the poisonous colorings of carpets have often been found to be directly responsible for slow forms of arsenical poisoning. A case of corrosive sublimate poisoning has been reported where that substance was used in solution to destroy bed-bugs—the evaporation of the water causing the finely divided corrosive sublimate to permeate the atmosphere of the sleeping room.

The dangers of noxious gases coming from vaults

and drains and cess-pools are too well known to need more than mere mention in this place.

Carbonic Acid Gas, also known as carbon dioxide, is naturally present in the atmosphere. The amount averaging about four parts in ten thousand (by volume), though varying according to locality, season and time of day. On land the proportion slightly increases at night, due to the fact that while plants absorb carbonic acid gas during sunlight, they do not do so during the night. In the arctic regions the proportion of the gas in the atmosphere averages over five parts in ten thousand, due to the absence of vegetation. For a similar reason and also because there is a much greater combustion of fuel going on, the atmosphere of cities has a larger proportion of carbonic acid gas than is found in the atmosphere of the country.

The following table states the proportions of carbonic acid gas found in various localities. The observations were made by chemical authorities:

PLACE.	PARTS IN 10,000.
Boulevard of Paris.....	3.19
Parisian green-house.....	1.00
Geneva, Switzerland.....	4.68
Upon the Ocean, day time.....	5.42
Upon the Ocean, night time	3.34
London Prison cell.....	12.15
Theatre Parquet (gas light).....	23.00
Theatre, near ceiling (gas light).....	43.00
Rocky Mountain Lead Mine.....	75.00
Coal Mine (lamps extinguished).....	350.00
Grotto del Cane.....	7,360.00

Over the ocean the amount of carbonic acid gas in the atmosphere during the day is greatly in excess of that during the night; on account of the fact that the heated surface of the water does not absorb as much gas as does the cold water at night time.

The sources of carbonic acid gas in the atmosphere are easily mentioned. First comes combustion of carbonaceous material which forms carbonic acid gas as

a product—one atom of carbon uniting with two atoms of oxygen. Whenever wood, coal, gas, kerosene, alcohol or any other combustible article is burned, carbonic acid gas is given off. In a closed room the oxygen used to unite with the carbon must be taken from the room, and for that reason the proportion of oxygen greatly decreases as the proportion of carbonic acid gas increases, and the atmosphere of the room soon becomes of a character unbearable, which in time would not support life or combustion. A stick burned in a closed jar is soon extinguished for the same reason.

Animal respiration is another great source of carbonic acid gas in the atmosphere. Sex, age, food and exercise cause variations in the amount of gas given off by human beings. Violent muscular activity and the consumption of starchy or carbonaceous foods will greatly increase the amount.

The appended table shows the amount of carbonic acid gas given off and the amount of oxygen absorbed in twenty-four hours by males of various ages. The figures given are approximate averages and are furnished by unquestioned authorities (Andral, Gavarret).

Age.	Weight.	Gas given off.		Oxygen absorbed.	
		Quarts.		Quarts.	
8.....	49.....	225.....		207	
15.....	102.....	389.....		454	
16.....	118.....	483.....		563	
20.....	135.....	510.....		595	
24.....	147.....	545.....		636	
40.....	148.....	452.....		527	
60.....	139.....	411.....		480	

An adult male makes about sixteen or seventeen respirations in one minute, averaging twenty-four thousand respirations in twenty-four hours. At each expiration he will, on an average, exhale about twenty-five cubic inches of air, or 600,000 cubic inches in twenty-four hours. About five per cent of this is carbonic acid gas, and to maintain this exhalation about five per cent of oxygen must be consumed.

Other sources of carbonic acid gas in the atmosphere may be mentioned as follows: From waters of all kinds, from fissures, geysers, volcanoes, etc., from mines after explosions of fire damp; from fermentation—alcoholic fermentation causing the evolution of about 190 quarts of carbonic acid for every quart of alcohol formed. The total amount of gas from these sources is enormous.

Manufacturing establishments (besides their combustion of coal) often give off large quantities of carbonic acid gas—such as lime kilns, cement works, etc.

The actual volume of carbonic acid gas in the atmosphere of our globe is enormous, and is being added to by immense volumes; yet the proportion remains almost constant, as the amount detracted from the atmosphere directly counterbalances the amount given it. The means by which carbonic acid gas is taken from the atmosphere may be mentioned as follows: Vegetables and plants during sunlight absorb the gas for nourishment, both by their leaves and roots, and decompose it, using the carbon to build up structures and discharging the oxygen, nearly equal in volume to the carbonic acid gas absorbed.

Lime and various rocks and corals and animal organisms are constantly being changed to their carbonates by union with the carbonic acid gas of the atmosphere.

It might be supposed that the various strata of the atmosphere would vary in composition on account of the differences in weight of the gases composing it, and that as carbonic acid gas is many times heavier than either oxygen or nitrogen it would naturally be found nearest the earth's surface. But such is not the case, for by a natural law, termed the law of the diffusion of gases, the various gases of the atmosphere mingle to form a uniform mixture throughout of invariable proportions.

What Is Contaminated Air?

Although the average amount of carbonic acid gas in the atmosphere is four parts in ten thousand, yet in confined places it is obvious that the proportion may be greatly increased. When it is increased to

such an extent as to constitute six parts in ten thousand the atmosphere may be considered as contaminated. Still, the source of the increased amount of gas should be considered for various reasons. When it is caused by respiration or combustion in a confined space the increased amount represents also a decrease in the proportion of the oxygen present, and therefore a most unnatural condition of the atmosphere, which of itself would be detrimental to health even without an increase of carbonic acid gas.

An adult man deprives of oxygen a little over one hundred quarts of air an hour. But practically much more air is required for his existence every hour, as from what has been said it is evident that all the oxygen could not be taken from the surrounding atmosphere and life still exist. Indeed, should the atmosphere contain even five per cent of carbonic acid gas life could not exist in it; and only one per cent would cause serious difficulty of respiration. Under no circumstances should the amount of carbonic acid gas in a compartment be allowed to exceed six parts in ten thousand—four parts being the normal amount and two parts the addition by combustion and respiration.

De Chaumont, after a series of carefully conducted experiments, prepared the following table to designate the time required to render unventilated compartments unhealthful on account of an excess of carbonic acid gas thrown out by the respiration of one man:

10,000	cubic ft.	would be contaminated in	3 hrs., 20 min.
5,000	" " " "	" "	1 hr., 40 min.
1,000	" " " "	" "	..... 20 min.
600	" " " "	" "	..... 12 min.
200	" " " "	" "	..... 4 min.
50	" " " "	" "	..... 1 min.
30	" " " "	" "	..... 36 sec.

By contaminated is meant charged with carbonic acid gas to a greater degree than six parts in ten thousand. Although it would be possible for life to exist some time were there even six hundred parts in

ten thousand, such an atmosphere could not be endured for more than a few minutes without risk of dangerous consequences.

THE LUNGS.

How to Develop their Full Capacity.

Did you ever stop to contemplate the importance of the lungs to the human body? Very few persons make use of their lung power, and as a rule those important organs will be found developed to about one-fifth of their full capacity. Large lungs do not always indicate development, for largeness may be due to accumulations of fatty tissues. It is important that the air cells of the lungs be developed—all of them. It is in these air cells that the oxygen and the life giving principle of the atmosphere have opportunity to enter into the circulation and to so affect the blood as to purify it and add to it that indefinable "something" which we are often satisfied to call the life principle—the "breath of life" by which we live and move and have our being.

Realizing the importance of this life principle to our very existence is it not a wonder that all the human race are not familiar with the best methods of obtaining it?

Of course we know that vitiated air, that is, air laden with poisonous substances, products of decay, obnoxious gases, etc., will produce disease; and we also know that if the lungs are crowded or diseased they cannot perform their normal functions. Knowing these facts, and being assured of the purity of the atmosphere we breathe and that our lungs are not crowded or diseased, we are, for the most part, satisfied, and feel assured that if diseased conditions are present in our bodies, the lungs at least are not responsible. But let us consider all the circumstances.

With one-fifth of our lung power developed, are we breathing into us the full amount of "life principle" which it is our privilege to enjoy? The air may be pure and the lungs sound, and that is well as far as it goes, but it does not go far enough—we must use our

lungs. Through the stomach and the skin many things may enter the body which are capable of injuring it; but within the body there is a "something" which tends to overcome the influences which threaten to work destruction. That something we are pleased to term the "life principle," and we breathe it into the body along with the atmosphere which we inhale into the lungs; and the more of this life principle we inhale the greater will be our resistive power against disease and the longer our lease of life.

"Well," you will say, "I will start at once and use my lungs to their full capacity." You can't. The muscles of your arms are probably strong enough to lift 500 pounds, but they cannot do it unless they have been trained to the task. Neither can your lungs inhale this "principle of life" to their full capacity until they have been trained to the task. And to train the lungs they must, like the muscles of the body, be exercised systematically and progressively.

The following rules for exercising the lungs will be found invaluable. Follow them and you will develop your lung power to its fullest, and you will literally inhale the "breath of life," which will increase your resistive powers against disease, and, in conjunction with other proper modes of living, aid in prolonging your span of life far beyond the century mark.

Rules for Lung Exercise.

I.—Always perform the exercise in the purest air obtainable. Such air is best found where there is good ventilation of air purified by sunlight. Out of doors in the sunshine is best; but is not always possible.

II.—Through the nostrils inhale slowly all the air the lungs will hold, but do not elevate the shoulders or contort the body in obtaining it. Sit or stand quietly during the operation. When the lungs are full, retain the air in them for three seconds, and then slowly let it escape. Repeat this operation four times, each time retaining the air a second longer.

III.—Rest a few minutes after observing Rule II.; then completely empty the lungs and proceed to refill them; this time noiselessly sniff up the air through

the nostrils in short breaths, not allowing any to escape until the lungs are filled as full as possible, when it may be slowly allowed to escape. Keep the shoulders down and moving backward. This operation may be termed packing the lungs with air.

IV.—Slowly and completely fill the lungs with pure air, and then firmly grasp with both hands a pole held at arm's length, slowly tightening the grasp until the muscles of the arms and chest are put on a strain. Afterward use a pole for each hand.

V.—During all these exercises keep the mind free from any thoughts except the one idea that by these processes the "life principle" is being taken from the atmosphere and stored in the body.

It is simply wonderful what a great change will come over a person who will systematically observe these rules of lung exercise; daily, if possible, but never to the point of fatigue. The change may not come at once; but it is sure to come; and with it the whole body and the mind will feel exhilarated. The resistive power against disease will be increased a hundred fold, and the most important step toward a long and a healthy life will have been taken.

RESPIRATION.

Rules for Proper Breathing.

There is a great difference between ordinarily using the lungs and exercising them. The use of the lungs is imperative to existence, and the exercise of them is imperative to their development. To simply draw air into the lungs will not suffice; several things must be considered.

1. BREATHE THROUGH THE NOSTRILS, ALWAYS.

Whoever habitually breathes through the open mouth either already has some form of lung disease or else is on the rapid road to such a condition. A moment's reflection will make it apparent why all breathing should be carried on through the nose.

Ordinary atmosphere is filled with dust; this can be

plainly seen in a ray of sunlight. Such dust, even though extremely fine, will prove irritating to the minute air passages and air cells of the lungs, and such irritations constantly kept up will eventually cause more or less inflammation. When breathing through the nostrils these particles of dust are intercepted by the arrangement of spongy substances and mucous surfaces placed there by Nature for this express purpose. Being collected there, the particles can readily be blown out when they accumulate in excess, which is known by a tickling sensation. Dust might be coughed out of the lungs when it proves irritating. But coughing is a damaging act to perform at best.

The atmosphere is usually laden with poisonous germs of disease or products of animal and vegetable decomposition, which, when taken into the lungs, poison the circulation and very often cause contagious diseases. These poisonous substances, when air is inhaled through the nostrils, become lodged in the substances and mucus mentioned, and are also counteracted by the character of the secretions, and easily ejected. Healthy persons who keep the mouth closed may with safety enter the room of a person suffering a contagious disease, provided the stomach is well filled.

With very rare exceptions the temperature of the atmosphere is much lower than that of the lungs, and inhaling air through the mouth allows it to enter the lungs too suddenly and prove a constant source of irritation on account of its coolness. When the air is inhaled through the nostrils it is warmed and brought to the bodily temperature before it enters the lungs.

The atmosphere is dry compared to the normal condition of the lung surfaces, and should, by natural arrangement, be moistened by passing over the mucous surfaces of the nostrils before entering the lungs.

2. TAKE LONG, FULL BREATHS.—It is the almost universal custom to breathe in too shallow a manner—nothing like the full capacity of the lungs being used. Of course it is not advisable to expand the lungs to the fullest possible degree at every inspiration, such

a practice would not only be discomforting and absurd, but would allow of no reserve force in case of emergency. But by a little practice a person will soon become accustomed to taking full and deep breaths at each inspiration, thus using every part of the lungs, though not, of course, to the fullest capacity.

3. **MAKE FULL AND FREE EXPIRATIONS.**—It should naturally be inferred that full inspirations should be followed by full expirations, but such is not necessarily the case. The lungs may be filled and then the air allowed to escape in small quantities in a jerky manner. This will cause trouble in time.

4. **HOLD THE HEAD ERECT.**—When the head is bent forward the upper parts of the lungs are crowded. This is a most common cause of lung trouble, and if persisted in cannot help but result in serious trouble. Throw the head and shoulders back and allow the collar bone in the center to protrude as much as possible. But do not draw the shoulders upward, as this would manifestly cramp the upper part of the lungs. It is hardly necessary to add here that the ribs should not be pressed upon by tight clothing, corsets, etc.

WATER.

Its Characteristics and Purification.

Every structure of the human body contains water, and a person weighing 154 pounds is composed of 109 pounds of water and 45 pounds of solid matter. As drink nearly three pints of water are daily taken into the system, to be carried about to every nook and corner of the organism; and about the same amount is daily discharged through the various secretions and by the lungs. In addition to this amount considerable water must be consumed each day by every individual for bathing, cooking, etc.

The importance of a pure supply of water can not be overestimated, and the dangers of an impure supply are greater than any other menace to health and

life. Various diseases, especially those of an epidemic character, have been proven to be largely ascribable to impure drinking water. Among diseases propagated by polluted water typhoid fever ranks first, and the many outbreaks of this disease, which have been of late very frequent, have in all cases, where investigations have been made, been directly traceable to contamination of drinking water.

The sewage of towns and cities emptied into the sources of the water supply is directly responsible for multitudes of deaths which might otherwise have been prevented. It is becoming common to attribute all cases of typhoid or enteric fever to impure water, but there are, perhaps, exceptional cases.

That dysentery is frequently caused by drinking unwholesome water has long been known; and camp life alongside of a stream which serves as a drainage canal and a source of drinking water, will abound in dysentery. Cholera is likewise disseminated through water, and perhaps also are many other diseases which are now supposed to be caused by other means.

Drinking Water.

PURE water is also known as potable or wholesome, and is usually derived from springs or deep wells or from streams flowing over high, rocky land. It must be odorless and tasteless, clear and sparkling, and grateful to the taste. It should contain no sediment or cloudiness, and be free from mineral or organic material.

Drinkable water may be usable and yet not absolutely pure. Mineral waters may be drinkable and yet contain large quantities of substances, such as salts, which are not found in pure water. But drinkable water of necessity must be clear and sparkling, possibly slightly colored and possessing no odor unless it should be the odor of some well-known chemical substance, for instance such as is connected with ordinary sulphur water.

Polluted Water.

SUSPECTED water is usually cloudy and contains matter in suspension. It has a disagreeable odor and

a peculiar sweetish or unpleasant taste, and will prove unsatisfying to the thirst, and produce unpleasant sensations in the stomach.

IMPURE water usually has a pronounced taste and odor and is not clear and sparkling, and under the microscope will be found to contain various animal and vegetable organisms. But some impure waters will be clear and limpid, odorless and tasteless, but lacking a sparkling appearance and having a flat taste. Such waters will usually be found to contain in abundance the products of animal or vegetable decay, and are highly dangerous.

ORGANIC MATERIAL of animal origin is always, when found, a dangerous constituent of water; but when of vegetable origin it is not always baneful, unless imparted to matter by marshes or other apparent unhealthful sources. It is the animal poison in water that is the great producer of disease.

POLLUTION of water may occur in various ways. A surface well may be a reservoir for the water that soaks through a soil filled or covered with decaying vegetable or animal products, or its nearness to a vault or cesspool may cause it to be contaminated by their contents slowly seeping through the soil. Wells and cisterns in cities or large towns are obviously liable to be thus contaminated. The exact least distance at which a well may be safely situated from a cesspool can be decided only by the character of the soil. Some countries have laws upon this subject. In Belgium four hundred yards is the distance considered by law as sufficient to avoid all possible contamination.

Purification of Water.

The most satisfactory way to purify water is to boil it for at least fifteen minutes. This will destroy any animal or vegetable organism which may exist in water to the detriment of its free use for drinking purposes. After being boiled, water seems flat to the taste, but this objection is overcome by pouring the water from one vessel to another, allowing it to splash

during the process. When such a simple method of purification may be resorted to by anyone, it is surprising impure water should any longer be allowed to cause disease and epidemics of disease. The boiling of water is otherwise beneficial, as it causes the deposit of carbonate of lime, when that substance is present, thus rendering the water more palatable and less liable to produce gravel or urinary calculi. Permanent hardness of water is not overcome by boiling.

DISTILLATION will of course result in the absolute purification of water, although distilled water must be thoroughly mixed with air by agitation before it can be considered palatable. One of the greatest aids to the cure of rheumatism consists in drinking nothing but distilled water, and that in great abundance.

DECANTATION consists in allowing water to settle and then drawing off the upper and clear layer of water and leaving the muddy water behind. This process obviously gets rid of simply the suspended matter. The addition of two grains of alum to the gallon of water will greatly hasten its settlement and cause many organic impurities to fall to the bottom of the vessel; although the soluble products of animal decay, often highly deleterious are not separated by decantation.

FILTRATION is a very common way of purifying water, and if carefully performed is often quite effectual. A properly constructed filter, containing gravel, sand and animal charcoal will render drinkable even the foulest water. But all such filters require the greatest attention, as neglect to cleanse them after they are once saturated with impurities will cause the accumulated impurities to pass through with the water and render it doubly dangerous. Washing the contents of a filter will not sufficiently cleanse them, they must be heated to a high degree to destroy all possible germs of disease. The Pasteur and similar filters, made of porous earthen material, have proven very effectual in excluding all forms of impurities, with the possible exception of soluble organic products;

but they require a strong current of water to pass through them.

Not infrequently water becomes contaminated by remaining in lead pipes, and becomes highly dangerous. Hard water, though, may pass through lead pipes with safety, as the carbonate of lime in the water unites with the lead to form an insoluble lining to the pipes. But soft water, such as rain-water, will dissolve lead and become deleterious to health. For such reason cistern water should not be pumped through lead pipes and no soft water should be used after it has stood any length of time in such pipes. A very satisfactory and simple method of testing for the presence of lead is as follows: Place the suspected water in a white wash bowl and stir into it a few drops of sulphide of ammonium, which will turn dark if a metallic salt should be present, and the darkness will remain after a few drops of muriatic acid are added if the metal is lead.

Hard and Mineral Waters.

Water containing compounds of lime or magnesia is termed hard, and may be readily distinguished by the curdy appearance caused by the addition of soap. *Temporarily* hard water contains carbonate of lime or magnesia, and may be rendered soft by boiling, which causes the carbonate of lime to fall to the bottom of the vessel and form crusts. The addition of slaked lime to hard water will likewise cause a sediment. Either one of these methods renders the water more suitable for drinking purposes. For use in the laundry or baths hard water is best rendered soft by the addition of a small amount of sal-soda. Permanently hard water is caused by the presence of gypsum, otherwise known as sulphate of lime or plaster of Paris. Boiling will not cause this to be deposited.

The continued use of hard waters for drinking purposes is liable to cause gravel or calculi, and for that reason it is always advisable to boil such waters before partaking of them; although most persons will be able to drink them for years without appreciably bad effects.

What are known as natural mineral waters are such

as flow through sections containing soluble salts of the minerals. Many of such waters are valuable aids in the cure of various diseases. Lithia water is especially valuable in rheumatic cases; sulphur water is serviceable in the treatment of skin affections, iron waters are of tonic value, and waters containing sulphates of soda or magnesia are useful as purgatives. A mild mineral water may be used continuously; but such as are heavily charged with mineral salts must be used only when especially indicated.

THE FOODS WE EAT.

Their Composition and General Characteristics.

Life can be preserved only by supplying the system with food suitable for its proper maintenance. In youth the amount of food taken must be more than sufficient to counterbalance the ordinary wear and tear of the body; for new bones, nerves, muscles and other tissues must be developed. In old age it is not a difficult matter to habitually supply the body with more food than is required to maintain existence without development. In middle life the amount of food taken should be just sufficient to repair damages, to take the place of waste, and to preserve vigor and to accumulate sufficient flesh to permit of extra demands without injury.

By many it might be supposed that ideal food should consist of preparations in condensed form, partially pre-digested by chemical means, and destitute of all properties except those which supply actual nourishment for the building of tissue, etc. Such foods, it can be argued, would avoid the labor performed by the system in digesting the food and separating the valuable constituents from those which are thrown off as waste matter. Theoretically such foods would be valuable, but practically they are worthless except for short periods when the system is unable by disease to perform its natural functions,

The "superfluous" substances are in reality not at all superfluous, but absolutely necessary to maintain

actions designed by nature. For instance, the stomach will not secrete its proper amount of digestive fluid, or gastric juice, unless somewhat distended, and the intestines will not perform their functions properly unless partially filled with substances. During short seasons of fatigue or excitement it may be most convenient to sustain extra bodily or mental exertions by the use of concentrated foods; but at all other times, when natural performances are going on, the naturally formed foods of man will be found the most suitable.

It is well to enquire what are the natural foods? By some extremists it has been argued that man in his original state never cooked his meals, but lived upon raw roots, herbs, nuts, vegetables, etc., in their natural form. But it must be remembered that man possesses an intellectuality which places him above the ordinary animal. This intellectuality develops and serves for his betterment. There is a reason for human intellect and that is intended to be for the advantage of man. Almost unconsciously the human race uses its superior powers to enhance its happiness and prolong its existence. No other animal consciously or unconsciously improves with each succeeding generation as man does. The wearing of apparel and selecting as clothing the materials best suited for the various seasons of the year, are acts which aid existence.

It can scarcely be doubted that the present age presents far different environments for mankind than existed along with primeval man. Therefore why should we follow the habits of the aboriginal man and eat as we suppose he ate? The cooking of many foods is an absolute necessity and destroys germs of disease and other poisonous substances which man in his present higher state of civilization rarely possesses the power to resist. For it must be remembered that along with our increased intellectual development, which is our destiny, our physical beings become more sensitive to outside influences, and our intellectual development almost unconsciously counteracts this by providing precautionary measures. We are like gods, able to discern good from evil, and

surely we should be willing to utilize this ability for our comfort and long life; selecting our foods according to their adaptability to our requirements, and preparing them as is best suited to our tastes and our peculiar habits of life.

Composition of Foods and Tissues.

The innumerable forms of substances in the animal, vegetable and mineral kingdoms are all formed of very few substances, termed elements, combined in various manners and proportions. The human body contains but fourteen elements, united in various manners, to constitute bone, muscles, nerves, brain, secretions, fluids, etc. Manifestly, then, in order to maintain the body, and to rebuild as fast as the substances are destroyed, we should supply the constituents in the proportion in which they occur in the body. This we are almost able to do, for the chemist has discovered which are the elements that enter into the formation of the body. They are:

Oxygen,	Calcium,	Fluorine,
Carbon,	Phosphorous,	Iron,
Hydrogen,	Sulphur,	Potassium,
Nitrogen,	Sodium,	Magnesium,
(Chief elements) Chlorine,		Silicon.

But knowing that these elements exist in the human body it does not follow that all that is necessary for maintaining life is to supply these isolated elements in the proportion in which they are found in the body. Something else is essential, for a diet of these chemicals would soon destroy life instead of sustaining it. What then is necessary? Organization. These elements are not found in their natural state in the body—not one of them. The anatomist will search in vain throughout the body for particles of iron or sulphur or sodium or any other of the elements. These are all found only in various combinations, which go to make up the tissues, fluids and various structures of the body. These combinations have been definitely ascertained. The chief of them may be designated as follows:

Elementary Combinations in the Body.

Water,	Phosphate of Lime,	Sulphate of Potash
Fat,	Phosphate of Soda,	Sulphate of Soda,
Gelatin,	Phosphate of Potash,	Peroxide of Iron,
Albumen,	Phosphate of Magnesia,	Fluoride of Cal-
Fibrin,	Carbonate of Soda,	[cium,
Salt,	Carbonate of Lime.	Silica.

Water is everywhere present in the body. It gives form to tissues and keeps various salts in solution. In fact, over three-fourths by weight of the body consists of water. Under all circumstances and in all conditions, therefore, water is an indispensable article to human existence. Water, pure and simple, must be supplied at all times in abundant quantities; and this is done by necessity. Every article of food we eat contains water, and no substance is fit to enter the stomach that does not contain it.

The various combinations enumerated above are not all evenly distributed throughout the body. Some structures are chiefly of one set of combinations, and other structures chiefly of another set, etc. For instance—

1. All organs involved in the performance of actual labor, such as the muscles, tendons, etc., are chiefly composed of combinations containing nitrogen, such as albumen, fibrin and gelatin.

2. All organs, such as the brain and nervous system, which perform the intellectual and sensory duties of the body, are composed chiefly of the combinations known as the phosphates.

3. Those portions of the body which are consumed to keep up the animal heat are composed chiefly of fats and substances containing carbon—the carbonates.

Thus it becomes evident that there must be various classes of foods eaten to maintain various classes of actions which are performed by structures composed of different combinations.

Classes of Foods.

1. The muscular system needs foods known as nitrogenous, or the *Nitrates*.

2. The brain and nervous system need foods known as phosphatic, or the *Phosphates*.

3. The maintenance of fuel to keep up the heat of the body during activity needs foods known as carbonaceous, or the *Carbonates*.

These, then, are the three classes of foods which it is absolutely necessary to supply to the human system in order to maintain existence—each class supplied in proportion to the demand. Heat must be maintained at all times, and the carbonaceous substances must always be used in excess of the other combinations; for every act of the body involves the consumption of heat. Still every act involves the expenditure of nerve force and also of muscular action, but to a less degree. When excessive muscular exercise is to be taken, the quantity of nitrogenous food must be increased; and when excessive brain work or nervous strain is being endured large quantities of the phosphates are required.

What Is a Food?

Any substance which is capable of maintaining bodily performance of functions without injury to the structures may be classed as a food. It will be found that the only substances which are capable of so doing and which should be classed as foods are substances which contain none but elements found in the list of fourteen given, and these chiefly oxygen, carbon, hydrogen and nitrogen. Any substance which contains an element not of the fourteen is a poison to the system. Another fact in regard to food is it must be in a form which has been organized by Nature through vegetation.

Having ascertained the exact proportions of the fourteen elements of the body, should they be given to the stomach as elements in those proportions death would follow. It is absolutely essential that these elements must have been combined first in some form of vegetation before they can build up structures within the body. Water and salt may seem exceptions, but they are not. Water taken, pure and simple, acts as a solvent in the body and to help give

consistence and shape to structures. It remains as water in these structures and is not decomposed to build tissues; the hydrogen and oxygen of tissues being always derived from vegetable substances. Salt taken into the system remains as salt in every instance, and is never decomposed to build tissues.

To administer iron, phosphorus, sulphur and other elements to the body with the belief that that they will build up tissues which contain them is a woeful display of ignorance on the part of those who thus believe. The laws of Nature are so plain in this particular that "a wayfaring man, though a fool, need not err." Minerals or elements can never be assimilated.

Wheat a Natural Food.

Long before mankind had the least knowledge of his elementary composition, and ages before chemistry was dreamed of, wheat was the principal food for mankind, and remains so until this day. It may have been chosen by an unconscious intelligence, but it is a fact that wheat is the chief grain which contains all of the fourteen elements which compose the human body, and in proportions which well supply the ordinary demands of the system. About two-thirds of the grain consists of the carbonaceous materials; and the outside of the wheat contains the nitrogenous combinations; and the germ has the phosphates.

But, alas for the ingenuity of man! This natural food for the human body is now sadly deteriorated as modern flour, pleasing to the eye by its whiteness, but unfit for constant use on account of being deprived of its nitrogenous and phosphatic elements to a large extent. It is most gratifying to know that public knowledge of this fact is becoming so general and the demand for the natural food so great that many manufacturers are competing with one another in placing upon the market fine grades of entire wheat flour, which can be used with impunity. There is nothing so calculated to raise a family of dyspeptics, of nervous and irritable beings, as the constant use of "pure white" flour. It lacks the elements of strength. of muscle-making and bone-making powers; and if used

constantly will ruin the teeth, weaken the body and be the cause of premature decay. When whole wheat flour can be so easily obtained it is a crime against nature to continue the use of the other.

Usefulness of Foods.

With very few exceptions, such as butter, oils and suet, which is carbonaceous, foods are mixtures of the carbonates, nitrates and phosphates with waste substances which cannot be eliminated. At the end of this chapter will be found a table of foods, showing approximately their composition. It will be most useful as a reference table in choosing a suitable diet. Thus, when there is great muscular exertion, especially during cold weather, when great animal heat is required, the carbonaceous foods may be abundantly eaten, such as fat meats, corn, rice, rye, sugar, prunes and white flour. Of course most of these articles contain phosphates and nitrates also in limited quantities; but in addition foods with more of these combinations should be a part of the diet.

When the muscles need strengthening they should be fed with an excess of nitrogenous foods, such as lean meats, beans, peas, lentils, cheese, vermicelli, etc. But let it be remembered that an exclusive diet of these substances will soon cause diseased conditions.

When the brain is being overworked or the nervous system placed on a strain, the phosphates are required. Typical of these may be mentioned fish (except salmon), eels, lobster, plaice, turbot, almonds, prunes, entire wheat, oat-meal and Southern corn. It has been demonstrated by most accurate experiments upon ministers, lawyers and other brain workers, that after exceptionally severe mental work the excretions from the body will be found loaded with excessive quantities of phosphates—showing that phosphorus has been consumed in excess and should therefore be supplied in a natural manner in the form of foods. Once understand these facts and no so-called physician will be able to feed you pellets of elementary phosphorus with the explanation that phosphorus is needed to supply nerve waste. It is

needed, but can be beneficially supplied only as Nature intended it should be—in combinations formed in organized structures. Elementary phosphorus is always damaging to the system—it is poisonous.

A most excellent drink for brain workers is made by stirring a cupful of rolled oats into a half-gallon of water and allowing it to soak an hour, then stir into it the juice of half a dozen lemons and strain it and drink cool. This will contain an abundance of phosphates, and when sweetened will be agreeable to the taste and quench the thirst. Some persons prefer bran to oatmeal. The use of phosphates, prepared by mixing together phosphatic salts of soda, lime, etc., are pleasant and cooling and may be serviceable as solvents in the blood; but they cannot act as brain foods, for such phosphates have not previously been a part of organized substances, and therefore by natural law cannot possibly be assimilated as nourishment.

THE ADAPTABILITY OF FOODS.

How to Select a Proper Diet.

Select the class of diet most suitable for your temperament and occupation and age,—having regard for the season. Persons of nervous temperament and those engaged in mental pursuits need an extra amount of phosphatic foods. Persons of lymphatic temperaments and those who lead sedentary lives need less than others of carbonaceous foods. Lean persons, and those who are actively employed, may eat abundantly of carbonaceous foods. Let it be remembered that in summer the amount of carbonaceous foods should be considerably diminished, and in winter they may be increased. But bear in mind that too much carbonaceous food at any time will obstruct the system and lead to fever and to various forms of “inflammatory diseases.” When, by necessity an over amount of carbonaceous food must be taken, use with it acid foods and drinks.

MEATS and nitrogenous foods are useful for developing muscle and sustaining strength, and can be read-

ily obtained in concentrated form; but it must not be imagined that concentrated foods alone can maintain bodily strength; they must be mixed with carbonaceous and other foods; for a certain amount of waste material in the body is essential to health.

Young persons should avoid meats, as they are extremely apt to cause nervous disorders at that time of life. Still, meat jellies and broths may be eaten freely between the ages of eight and fifteen. Let it be remembered that the value of meat lies in its fibre. Beef is by all means the most nourishing meat; but it should not be eaten too rare, and again an overdone piece of meat is not nutritious. Veal is hard to digest and mutton cannot be endured by all. Pork, when eaten, should be thoroughly cooked, but it is best not to eat pork at all, as cornfed and cleanly hogs cannot always be found.

Not more than one-sixth of the food at any meal should consist of meat; and this proportion is too large for daily consumption. It is not wisdom to argue that a vegetarian diet is best. It may be proper under some circumstances, for awhile, to aid in removing diseased conditions. But man is formed in a manner that designates his natural adaptability to a diet of meats, fruits, vegetables and nuts.

FOWLS are digested with difficulty, especially when roasted or fried. They are best prepared by boiling; and the dark meat is far more digestible than the white meat.

FISH can be eaten to advantage by almost any one in good health. It is essentially a brain food. It is a most valuable hygienic regulation, to say the least, required by some religious sects. that meats should be abstained from one day in a week and that fish should be used in its stead. Fresh fish once a week should be a rule of diet. Stale fish is poison and should never be eaten.

OYSTERS are most pleasant to the taste of many, and are calculated to arouse animal passion and excitement, but they possess very little nourishment,

and should not be eaten for the purpose of sustaining strength.

EGGS are most nourishing. They contain all the elements necessary to support life, and a human being may exist entirely upon a diet of eggs and milk and pure water. Hard-boiled or fried eggs are not so nourishing as soft boiled eggs. There is nothing so nourishing to a weakened person as a couple of fresh eggs beaten up well with rich milk and a little sugar added; the whites of the eggs beaten separately and then added. Many persons make an egg-nogg by putting into this nourishing delicacy a small amount of wine or whiskey or brandy. But it is a shame to add such poisons to so valuable a food for the sake of falsely stimulating the body and pampering the taste.

FRUITS as a rule are most excellent food and exceedingly beneficial; but this cannot be said of all fruits upon the market. Unsound or specked fruit is always injurious, as is everything else in which decay has commenced. Bananas should never be eaten except directly when plucked; and in any climate outside of where they grow they are injurious. In the cities of the North the bananas offered for sale have been plucked green and allowed to ripen in dark cellars, and too frequently in the close and poisonous atmosphere of the living rooms of filthy fruit peddlars. But no matter how they are ripened bananas are unfit to be eaten in the North.

ORANGES when perfectly sound and wholesome constitute the finest fruit that can be eaten; but reject the inside skin—the pulp being the only fit portion. Thin-skinned, rather sour oranges are best. Over-sweet oranges, or those whose rinds possess a pungent oil, are not fit to be used.

GRAPES, of the proper kind, are most excellent, and the proper kind are Concords, with the bloom still upon them, or any other succulent grapes which are very fresh. It is always best to eat them when picked directly from the vines. Avoid all grapes that have

ripened in the shade, as they are not fit to eat. Sunlight is indispensable to the healthfulness of grapes. Some persons preserve their grapes from birds and dust by tying small paper sacks about the bunches while they are on the vines. This method is destructive to proper development. Delaware grapes are not fit for eating purposes, although they look very pretty upon a banquet table. In eating grapes remove the seeds and if the stomach is delicate the skins should not be swallowed. There is not so much danger of appendicitis from swallowing grape seeds as many persons suppose, but quantities of the seeds are liable to collect in the large end of the stomach and cause much unpleasantness and irritation.

RAISINS are very nutritious and wholesome, but beware of the inferior articles, as they are filled with small worms, which may be seen under a magnifying glass. Nervous persons may use raisins to great advantage, and most invalids can eat them or drink a freshly prepared infusion from them as raisin wine.

PEARS are luscious and healthful if ripened on the trees and plucked and eaten before becoming too soft. Sunlight is essential to the healthful ripening of pears; and those which are plucked green and ripened in the dark are unhealthful.

PEACHES, when of fine grain and fresh, are good food. But the large California peaches sold in the Eastern markets are usually plucked green, and in ripening off the trees they become tough and leathery and unfit for consumption. Peaches with an acid flavor are not suitable unless cooked.

APPLES, and plenty of them, may be eaten with impunity, provided that the stomach is not overloaded at any one time. There is health in the apple, and those who do not eat them should acquire the habit at once. At almost any time of day an apple may be eaten to advantage. Some declare that "apples stick in the throat and are indigestible." Such will not be the case if they are properly masticated and the

cores and peelings avoided. Scraped apples, eaten as soon as scraped, are enjoyed by the most delicate. If you do not like apples it is probably because you have not yet found the special variety which suits you. Hunt around till you come across the peculiar kind of apple which is pleasant and agreeable to you, and then stick to it as an enjoyable companion and a true friend. Eat only ripe apples and those free from specks.

NUTS are greatly misunderstood—the extremes being gone to in their consumption. Some believe nuts to be the natural food for man and declare they cannot be eaten to excess if improper food is kept out of the stomach. Others are satisfied that nuts are poisonous and should not be eaten under any circumstances. Know the truth concerning nuts and you will then be able to eat them properly to your physical advantage. Nuts contain phosphates in large proportion and are therefore valuable brain food and tooth-forming material. But, with few exceptions, nuts contain oils which are extremely liable to undergo change in the stomach and form irritating poisons. Indigestion causes fermentation in the stomach and allows this change to take place, just as all oils are liable to become rancid by circumstances which favor fermentation. Eating salt after nuts will aid digestion. It is evident, then, that nuts when eaten sparingly, so as to insure their digestion and non-fermentation, are beneficial to health.

VEGETABLES should constitute a large proportion of the food of man, just as it does of the most intelligent animals. By consulting the table of the constituents of foods their adaptability to various condition may be ascertained. Many diseases may be cured by the judicious use of appropriate vegetables. Onions will be found most excellent for the glandular system and will excite the kidneys to action; but they should never be eaten fried. Asparagus is also an excellent vegetable for sluggish kidneys.

POTATOES are highly carbonaceous, and are fattening; but persons of sedentary habits should eat spar-

ingly of them, as they are fuel to the system and if not fully consumed soon cause obstructions. Hard working people and those exposed to the cold may eat potatoes abundantly; others should eat with them cranberries or other tart foods, or drink lemonade to aid their proper conversion in the system.

MILK is the natural food of infancy; that is, fresh milk direct from the breast before it has a chance to undergo changes. But as that kind of milk cannot be used by adults it is proper that we should find a substitute; and we find it in cow's milk. Pure, clean and fresh cow's milk is the most nutritious liquid known for general use; and the person who cannot use it without experiencing bad effects should seek out the abnormal condition which exists somewhere in his system.

But beware of the abominable fluid sold so largely in cities under the name of cow's milk. Despite milk inspectors and city ordinances mercenary wretches continue to make their living by dealing out to their customers the death fluid which annually kills its thousands under the name of pure milk. To be proper for use milk should be placed in well scalded jars as soon as taken from the cow and then hermetically sealed until needed for consumption. Germs of disease thrive in milk, and many diseases, especially diphtheria and scarlet fever, are conveyed by impure or filthy milk. When milk can be procured fresh and pure, plenty of it should be used. Buttermilk has often been recommended as an excellent drink, and in principle it is such if it could be freed from germs of disease.

CHEESE is highly nutritious. It contains large percentages of phosphates and nitrates, and may take the place of milk. Mild cheese made from the whole milk, fresh and pure, and kept in a clean and fresh atmosphere, is wholesome. Strong and "rotten" cheeses are not wholesome. Cottage cheese is often very agreeable to the taste, but it is not to be recommended as a diet. Cheese, made through various fermentative processes should not be eaten—they may stimu-

late the appetite and prove agreeable, but they injure the system.

COMPOSITION OF FOODS.

Comparative Analysis of 100 Parts.

ARTICLE.	Carbon-ates.	Nitrates	Phos-phates	Water.	Waste.
Bacon	63.5	8.4	0.5	28.6	....
Barley	52.	13.	4.	15.	16.
Beans	40.	24.	3.5	15.	17.5
Beef.....	14.	19.	2.	65.	....
Cabbage.....	6.	1.5	1.	91.	0.5
Carrots.....	12.	1.	1.	83.	3.
Cheese.....	28.	31.	5.	36.	....
Chicken	2.	21.	3.	74.	....
Chocolate.....	88.	9.	2.	....	1.
Corn.....	68.	12.	1.	14.	5.
Cucumber	2.	0.1	0.4	97.	0.5
Dates	74.	....	...	24.	2.
Eggs (whites).....	...	13.	3.	84.	....
Eggs (yokes).....	30.0	17.	2.	51.	....
Ham.....	32.	35.	4.5	28.5	....
Lamb.....	14.	20.	2.	64.	....
Cow's Milk.....	8.	5.	1.	86.	....
Mutton	14.	21.	2.	63.	....
Oats	51.	17.	3.	14.	15.
Onions.....	5.	0.5	0.5	94.	....
Oysters .....	...	13.	0.4	86.6	....
Parsnips	15.	2.	1.	79.	3.
Pears	10.	0.1	..	86.	3.
Peas.....	41.	23.	3.	14.	19.
Pork	16.	18.	2.	64.	....
Potatoes.....	16.	1.5	1.	75.	6.5
Prunes	79.	4.	4.	13.	...
Rice.....	83.	5.	0.5	8.	3.5
Rye	75.	7.	0.5	13.	4.5
Turnips.....	4.	1.	0.5	90.5	4.
Veal	14.	18.	2.5	65.5	....
Vermicelli.....	38.	47.	2.	13.	....
Wheat.....	67.	14.5	1.5	14.5	3.5

SLEEP.

How, When and Where It Should Be Obtained.

Sleep is "tired nature's sweet restorer," and it is as necessary for existence as food. Periodical interims in the midst of functional performances are provided for by natural law; and the more irregular these interims become in frequency and duration the farther does the organism depart from its healthy standard. The heart is often erroneously spoken of as an organ that never rests, but it is the most apt example of the natural law of periodical rest. Between the heart beats there is a short period of quietude, and it is definitely ascertained that the muscles of the heart are thus absolutely at rest one third of the time. These interims of rest are necessarily frequent, as the work to be accomplished cannot be abandoned any appreciable length of time. The regularity of work and rest of this most important organ of the body cannot be interrupted without serious results, and whenever irregularity is noticed it is an invariable sign of disease.

Harmony in nature demands that all organs and structures of the human body, from the smallest particle of living matter to the great muscular systems, must have their periods of activity and of rest. And the maintenance of regularity of these periods favors health and long life, while their irregularity will sooner or later cause disease and shorten the term of existence.

Sleep is the form of rest peculiar to the brain and nervous system, and it is a requisite of life, its frequent recurrences being periods of mental recuperation and cessations from nerve labor. The frequency and duration of sleep required by various persons cannot be stated in definite terms. Age, temperament, habits, climate and surroundings must all be considered in estimating the normal requirements of the organism for sleep.

Sleep Influenced by Age.

It is well known that childhood requires a large amount of sleep, and this may be accounted for by

several reasons. Childhood is the period of growth, and the infant's organism is taxed to maintain development; food is assimilated rapidly and the circulation is hurried, respirations frequent, nervous sensibilities very acute, and the nerves themselves taxed to the utmost to maintain the rapid performance of the varied functions. During the first year of existence too much sleep cannot be possible, and when of a natural character must be encouraged and regarded as most beneficial. The stupor of brain pressure and other affections is not considered here, and such conditions are readily distinguished. Up to the age of four years two-thirds of the time, or sixteen hours out of the twenty-four, can be most beneficially consumed in sleep. Such sleep should not occur at one time, but at intervals—twelve hours at night, two just before noon and two in the middle of the afternoon. A young child would thrive upon that quantity of sleep; but the morning nap is not essential to health and is usually not required. Regularity in the time of taking an afternoon sleep soon renders children unable to keep awake when the hour for sleep arrives. Children from six to ten years of age should be allowed at least ten hours sleep out of the twenty-four; and until maturity (from eighteen to twenty-one years of age) young persons should allow themselves eight hours for sleep, unless their habits of life during the rest of the day are such as make no especial demand upon the nervous system. Whatever the amount of sleep taken, regularity is essential.

During adult life the human organism has not the drain of development characteristic of youth, nor does it exert the extra efforts for preservation required in old age, for those reasons the adult is capable of enduring strains and suffering irregularities without great injury within certain limits. At this period of life temperament and occupation largely determine the amount of sleep necessary for the preservation of health. Regularity being most essential for all, each individual must be a law unto himself as to amount—good judgment and the feeling of rest secured usually being the guides in determining the hours of sleep required.

Old age usually requires but little sleep when the body is healthy, but considerable when disease is present. Circumstances and conditions make this plain. The labor performed by old persons is, or should be, small, and there are no excessive strains of development. As a rule, aged persons are early risers, and form the habit of retiring early. Their sleep should never be disturbed and they should not be aroused in the morning, but rather allowed to wake voluntarily, for when extra strains upon the nervous system have been endured by them, they have no reserve force and nature comes to the rescue by demanding a longer period of rest.

Sleep Influenced by Temperament.

Persons of a lymphatic temperament, inclined to become fleshy, demand more sleep than those of a nervous and vital temperament, and this peculiarity is frequently very pronounced even in childhood. It is not the extra sleep alone that makes the individual "fat and lazy," but it is the tendency to become fleshy that causes the sleep and laziness. It becomes the parents' duty to realize these peculiarities in children and not expect sleep to be portioned out with an iron hand. Nevertheless, excessive sleep by the lymphatic should be discouraged, and the nervous and active should be encouraged in every manner and allowed every opportunity to prolong their hours of sleep.

Sleep Influenced by Habits.

It is very easy to acquire the habit of sleeping soundly, and of at once falling to sleep upon retiring. Such a habit requires a less number of hours to be devoted to sleep than might otherwise be deemed advisable. On the other hand, when anxieties, cares and business perplexities are carried to bed, the sleep during the early hours is not refreshing and the time of sleep is necessarily extended. The occupation during the day likewise regulates the amount of sleep at night. Brain workers, and those undergoing severe nervous strains require considerable sleep; their fatigue is mental and nervous, and sleep is the only

form of rest that is beneficial. Persons undergoing physical exertions, unless very excessive, usually fall to sleep readily upon retiring, and the quiet position rests the muscles and the not over taxed nerves are most easily refreshed.

Sleep Influenced by Climate.

Persons living in very warm or hot climates become enervated. The great heat affects the peripheral nerves and gives a sense of fatigue which demands the complete rest secured only by sleep. Such persons soon realize the necessity of the noon-day nap or *siesta* which is a part of life in tropical countries. An extreme heat disturbs the nervous equilibrium, and so does extreme cold, and therefore persons in very cold climates and those in very warm climates equally require considerable sleep. There is this difference, however. In hot climates the heat is most intolerable in the middle of the day, requiring the extra noon-day nap; in cold climates the cold is most severe at night, requiring prolonged and sound sleep at that time, and no demand for rest during the daylight hours. In temperate climates the hours of labor may be longer and the activities greater and the accomplishments more than could be possible in climates of extremes of temperature.

The Proper Bed for Sleep

To secure the full benefit of sleep the bed must be of a suitable character. For many years it was thought that the old-fashioned feather bed could not be surpassed for health and comfort, but modern intelligence and experience have demonstrated the fallacy of the thought. For weary limbs and muscles that have endured strains all through the day, the feather-bed extends an irresistible invitation for repose. But the muscles are not alone to be considered as requiring rest. Modern men and women endure nervous strains, and mere physical repose is not sufficient. To tired nerves the feather-bed is enervating and oppressive, and does not induce that tone to the nervous system so much to be desired.

Another and a most important objection to the

feather-bed is its unhealthfulness as being a most probable abode for germs of disease. The human body during sleep gives off most impure emanations, and these soon saturate a feather-bed and render it unhealthful. How common a thing it is to regard a certain feather-bed as a sort of mascot, upon which the mother must lie when each new child makes its advent into the world and upon which each invalid member of the family must successively take his turn when prostrated by sickness. It is apparent that such a bed becomes unfit for slumber, and although the sleeper upon it may not directly contract disease, he is nevertheless almost certain to indirectly feel the influence of its unhealthful condition.

By those who perform great physical labor, the restfulness of weary muscles afforded by the feather-bed may cause it to be retained. But under such circumstances, each day, summer and winter, the feather mattress should be removed from the bedstead and hung out of doors or placed upon chairs in a draft by the open window; and in spring and in autumn it should be sent to a trustworthy establishment to be thoroughly renovated.

A most proper bed consists of a woven wire mattress, upon which is placed a corn-shuck mattress and over this a thin hair mattress. These can be readily removed and aired each day, and the corn-shuck can be frequently replenished. In winter time sleeping between blankets is healthful and comfortable, and in summer time linen sheets are to be preferred. Box mattresses are an expensive abomination, impossible to renovate and correspondingly unhealthful.

Position During Sleep.

Comfort will, to a great extent, determine the position of a sleeper, although it is easy to acquire the habit of sleeping in the position most conducive to health. The most healthful position is upon the right side, with the limbs fully extended and the body not bent. Such a position avoids pressure upon the heart, keeps the heavy liver downward and affords the stomach the fullest freedom, while it renders impossible any pressure upon the large plexus of nerves behind

the stomach. While lying upon the side the pillow should be of sufficient size to keep the head in its natural relationship to the shoulders. A pillow composed of hair is to be preferred, although a full-stuffed feather pillow is not objectionable if daily aired. Pillows composed of McIntosh cloth and filled with air are both comfortable and healthful.

Lying upon the back is to many the most comfortable position. Such persons should be careful not to overload the stomach or to eat too near the time of retiring; for a full stomach, or one distended with gas, will make pressure upon the large plexus of nerves and disturb the sleep by "nightmares," or at least interfere with the absolute rest of the nervous system, which should be secured in order to render sleep refreshing and recuperative. Those who sleep upon the back should use a very low pillow, for otherwise the head will be thrown unnaturally forward, crowding the upper portion of the lungs, and also inducing a stoop-shouldered carriage.

Sleeping upon the left side is often impossible to persons with heart trouble, otherwise such a position should occasionally be resorted to, as it is unwise to form a habit of being unable to sleep except in some one position, as sickness, injury or other conditions may make the usual position during sleep an impossibility. Those sleeping upon the left side should avoid retiring with a full stomach, as such a condition favors pressure upon the heart, and might cause unpleasant sensations, often mistaken for heart disease, though usually simply of "heart-burn" or indigestion.

Whenever it is found impossible to sleep in a prone position, necessitating the use of many pillows to support a semi-erect position, heart disease or asthmatic or lung trouble should be suspected, and the real nature of the difficulty should at once be ascertained and appropriately treated.

A Proper Sleeping Room.

Nothing is of more importance to healthful sleep than a proper bedroom. It is a great mistake to suppose that anywhere is good enough to sleep. About

one-third of life is spent in bed; and during sleep the system is relaxed and far more liable to be affected by unhealthful surroundings than during wakefulness, when the various functions of the body are in activity.

No bedroom is fit for occupancy unless at some time during each day the sunshine gains admittance. Damp walls or a damp floor are dangerous. Green-colored or arsenical wall papers should be avoided in sleeping rooms, and the floors should be covered with a rug which may be easily taken out of doors frequently to be shaken. Carpets tacked down and dusted once or twice a year are not healthful.

Ventilation is of the utmost importance in a sleeping apartment. Drafts over the bed must be avoided, but fresh air should circulate through the room. It is advisable that a window should be let down at the top, the distance being regulated by the weather, and the draft intercepted by a screen. A stove should never be near the bed; and, unless unavoidable, it is best to have no stove in the room at all. The severity of Northern winters often renders a fire in the bedroom a necessity, especially for children. Under such circumstances a grate fire will be most healthful, otherwise it is far better to sleep in the cold and secure warmth by additional bed-clothing.

A coal-oil lamp should never be left burning in the room during sleep, and if such a thing should happen it should not be turned down, as its gas is highly poisonous. By many it is believed that the fumes from burning kerosene oil constitute a prolific source of diphtheria and various throat and lung troubles; and such a belief is well founded.

Growing plants in sleeping apartments are never conducive to health. At night time plants give off carbonic acid gas, and in that manner render the atmosphere of close rooms unhealthful if they are present in large numbers. The placing of a large bowl filled with water upon a stand in the sleeping room will cause many of the obnoxious gases to be absorbed by the water; but it is far better to so arrange the doors and windows as to permit of perfect ventilation.

A sound and peaceful sleep upon a clean bed, in a room containing pure air, is an unsurpassed tonic to the nervous system during sickness or following fatigue, and is one of the surest methods of prolonging life and of maintaining mental and bodily vigor.

WORRY.

Philosophy of Its Influence Upon Health.

According to the rule of four Ws—"worry wears worse than work"—thousands have gone to early deaths for no other cause than that they were worried to death. Very often death may have been declared to be from heart or liver or stomach troubles, or from various other diseases, when the primary cause of the difficulty was worry. But in this age of reasoning it is not enough to merely state that worry kills, or even to have it practically demonstrated; there must be an explanation given as to how worry kills—a scientific explanation beyond a possibility of dispute; and such an explanation can readily and clearly be given.

A few facts are admitted by all who have at all considered physiological questions:

1. The brain is the most sensitive structure of the human organism.
2. The cells of the brain are the most important of the body, being the directors of all physical functions.
3. Nutrition is dependent upon the healthful performance of nerve action, guided by the brain cells.
4. Worry gradually weakens and finally destroys the nerve cells.
5. The nerve cells being injured, all the other organs of the body are affected, and unable to perfectly perform their functions—resulting in various diseases of the organs.

It is in this manner that a person is worried to death. Constant friction will destroy the largest piece of machinery; and worry is constant friction upon the most delicate piece of machinery in the uni-

verse. Slowly and without apparent immediate effect worry injures the minute structures of the brain and breaks down its cells.

Every thought involves the wear of brain tissues to some degree; but thoughts are varied, and are usually assorted in character—cheerful as well as gloomy—and their wear is not upon any one particular spot. But worry is the constant dwelling upon irritating thoughts—thoughts that are antagonistic to health and which wear upon a particular spot of the brain, like friction at one spot of a machine.

Were it possible for us to uncover the brain and with a delicate instrument unceasingly irritate a portion of it by constant friction upon one spot, we would manifestly soon work irreparable injury. This is the principle upon which worry injures the brain. An irritating thought constantly, unceasingly irritates a particular set of brain cells, and does so until those cells are injured; and, considering their extreme minuteness, and their delicate structure, it is surprising that they endure the irritation so many are forced to endure. Occasional worry with long periods of relief can be frequently endured without serious results, for during the restful period the great conservative power of the organism repairs whatever damage has been inflicted.

Concentration of Thought.

Any continuous line of thought upon one subject is most decidedly injurious; very similar to the continuous use of one set of muscles, only in the thought there is no relief. It is the strain involved by concentrating thought upon one idea which wears out the nerve cells involved. But not only does it wear out these cells, but it injures other cells not involved; for all cells of the brain must be used, just as all muscles of the body require healthful exercise, and these other cells cannot be duly exercised when the whole mind's action is concentrated upon a particular line of thought involving a particular set of cells. The effect upon the brain by constantly using one set of nerves is far greater than the effect upon the body by constantly using one set of muscles while all the

others are in forced idleness. Work always allows periods of repose, but worry allows none; that is the reason "worry wears worse than work." Worry grows upon a person. It continues constantly to harass him, more and more it irritates the brain, and the one idea finally takes possession day and night.

How Brain Cells Are Injured.

The chief cells injured or destroyed by worry are situated in the frontal lobes, directly beneath the upper part of the forehead. There are here various sets of cells. One man may have one set injured or destroyed, and another man another set, depending upon the character of his worriment. But all these classes of cells are intimately connected by very minute fibres, and are also connected to other classes of brain cells. So that whatever class of cells is first involved, other classes and the whole brain must be affected. And when the brain is affected the whole body with its various organs, with their performance of functions must be disturbed, and this means disease.

When the brain cells work they throw off a product which is poisonous (this has been microscopically demonstrated). When this product is rapidly thrown off by the normal activity of the cells, they return to their natural state. But when the product is not rapidly thrown off, the poison remains, and the cells being unable to perform their functions they soon commence to break down. When they lose their vitality, the adjoining cells and then more remote cells suffer, and in time the various organs of the body are affected. The brain cells being injured, nutrition is proportionately interfered with, and the body begins to show the effects of this failure of nutrition. Appetite diminishes or is lost, digestion is imperfect and assimilation greatly diminished. And whenever any organ or portion of the body is insufficiently nourished, disease is sure to follow. The disease may be attributed to the organ or part of the body affected, and death may be pronounced as the result of such diseased conditions. In fact the local disease may be the immediate cause of death, but the underlying difficulty, the source of all the disturbance, is the original injury to brain cells.

The injury to brain cells described may be termed chemical, as the poisonous product of irritable action destroys by its chemical properties. Electrical influences may also injure brain cells; and it need not be mentioned, so apparent is it, that these cells may be mechanically injured.

Let us more fully comprehend the nature of brain difficulties by considering the characteristics of the brain itself as disclosed under the microscope.

Construction of the Brain.

The tissues of the brain consist of masses of very minute cells, of very diverse shapes; each portion of the brain having cells of a particular shape; and some portions of the brain having several different kinds; just as various portions of the brain are involved in different lines of thought or mental action. All these minute cells have little projections, connected with which are delicate fibres which serve to join the various cells together. Thus, while the individual cells are joined, those of the front and back portions of the brain and of the upper and other portions of the spinal cord are united, and all these with the nerve trunks and their branches, which are distributed to every organ and part of the body.

In the brain the cells repose in a sticky mass, known as protoplasm. Of course the brain cells and the minute fibres connecting them cannot be distinguished by the unaided eye. The exposed brain appears as a grayish mass, curved outward. It is firm to the touch; and is furrowed by divisions between the ridges known as "convolutions of the brain."

The greater portion of the human brain is known as the cerebrum. It occupies the front and also the upper portion of the cranium. It is in the cerebrum that all intellectual actions have their origin, such as reason, will-power, judgment, etc. The seat of all such mental actions seems to be immediately beneath the front part of the head. Here are situated the brain cells which are most affected by worry, and these cells are connected by fibres to other classes of cells and to the whole nervous organism. It is here that worry gets in its deadly work, and it is but natural that a

man should knit his brows when in the midst of worry; for beneath that knitted brow the brain cells are being injured by the constant impressions in one particular line made upon them. And mental disturbances are quickly followed by physical disturbances.

The cerebellum or, as it is frequently called, the "little brain," lies toward the back of the head and partly beneath the cerebrum. This portion of the brain is supposed to control the physical life and motions of the body. Experiments have been made with chickens by removing the entire skull and cerebrum and allowing only the cerebellum to remain. Such headless "chickens," if properly nourished, will live for days and even weeks, and walk about and appear as in usual health; doing all things mechanically, and without any perceptive faculties; having no powers of sensation. The brain centers for sight and hearing are situated in the lower and back portion of the skull, and those of motion and sensation in the middle of the skull.

All persons who worry are not necessarily deceased thereby, for many are compelled to endure great worry for years and yet are not broken down by it; just as many may live to old age who indulge excessively in the use of alcohol or narcotics. But the chances are that continued worry will result in absolute injury to the brain, and that is more than probable if the worry is upon one particular topic. Concentration of thought upon one idea to the exclusion of all others cannot help but work disaster if persisted in, but the limit of endurance is often astounding, and actual damage done is frequently overcome by proper change of thought and action.

Knowing the philosophy of worry and the dangers of enduring it, let us contrive to avoid it. And when the one idea fastens itself upon our minds, let us realize that it is a physical condition, and use the balance of our brain to overcome its effects.

The same amount of will power which is required to stubbornly persist in entertaining detrimental thoughts, may be exercised in excluding those very thoughts, and thus aid in restoring the brain to a perfectly healthy condition.

EMOTIONS.

Their Influence on the Blood and Nerves.

While theoretically it cannot be doubted that violent or perseverent emotions, such as worry, fright, fear, exercise an injurious action on the general state of the body, experience itself teaches us that there is a certain relation between mental commotion and resistibility of the body against noxious influences. It will not be a strained interpretation of facts to regard "physic choc" as constituting at the same time a "cerebral commotion" by which the brain and the nervous system suffer and receive injuries just as well as by a fall or a blow. Secretory processes in the body, which healthy nerves only can perform appropriately, will fail to furnish normal products under the influence of depressed or exalted nervous activity, while, at the same time, the harmonious co-operation of all forces will be disturbed some way. And, inasmuch as the formation of the blood also depends on nervous action, and is regulated by it, disturbances of the nervous system, such as are consequent on worry and fear, will not be without a certain action on the composition of the blood. But the blood, according to our modern views, plays the most important part in the state of immunity against infectious disease, and we have, therefore, reason to believe that alterations in the condition of the blood will necessarily reduce the resistibility of the body against the agents of infectious diseases. The French investigators have succeeded in demonstrating by animal experiments that under the action of emotions the blood loses part of its protective power. By keeping timid animals, such as pigeons, rabbits, white mice, by means of noise or comminatory motions in constant fear and excitement for several hours, the blood of such intimidated animals offered to microbes, subsequently showed on it a favorable substratum for the growth of colonies; while on the blood of control animals which had not been subjected to these influences, no such growth took place. It was also observed that these animals, after artificial inoculation, would succumb much easier to some pathogenic agent or

would be affected by others to which they would not have been susceptible otherwise. This shows that the blood liquid had undergone modifications reducing the germicide faculty of the blood.

CHEERFULNESS.

Its Influence Upon Health.

One of the greatest causes of ill health is a morose or irritable disposition; and it is one of the causes most easily overcome, because it is dependent almost entirely upon one's own self. This may at first thought seem untrue; but by analyzing the statement its truthfulness will be realized. Of course there are circumstances over which we have no control which often cause us bitter disappointments and grief. To assume cheerfulness under those circumstances would be unnatural. The woman who said she could follow every one of her relatives to the grave without shedding a tear spoke falsely, or else she was of such a callous nature as to be less than human, not more.

The Master wept over the death of Lazarus, and are we his superiors?

But grief is very different from irritability of disposition. The latter is inexcusable, and morally criminal when it is known to destroy one's own body and add to the discomfort of others.

No irritable person can properly digest food taken into the stomach; and if the food is not digested perfectly there cannot be perfect health.

No irritable person can breathe properly. If you are irritable yourself, or know anyone who is, watch the effects of this irritability upon the respirations. They will invariably be short and uneasy, and an insufficient amount of air will be taken into the lungs. This being the fact, impure blood must result. And who can expect perfect health under such circumstances? Headaches, at first trifling, and then severe, are almost sure to follow such a condition; and these will lead to graver difficulties.

The brain of an irritable person is overcrowded with blood; and that of itself is a cause of disease.

When the brain is not clear and performing its proper functions, how can we expect the nervous system to keep in good condition? The circulation of the blood is largely controlled by the nerves; the performances of all the functions of the body depend largely upon the nerves. When they are deranged, what should we naturally expect?

It is most important, then, that we cultivate happy dispositions—dispositions which make others comfortable; dispositions which laugh at slight troubles and accept bravely and without murmurings the greater ones; dispositions which lead us to accept life as it is, and enable us to strive to better our conditions rather than to bemoan our fates.

But how are we to acquire such dispositions? Is it indeed true that our dispositions are born with us and that we cannot control them? No; such is not the fact. We are placed upon this world as human beings, to develop toward a perfect condition; and we are naturally adapted for such purposes. But we have will powers and reasoning powers, and unless we use them in carrying out the plans of Nature, we will thwart the purposes of our natural lives.

Four Sensible Suggestions.

1. There must be a desire to fulfill our destiny while upon this earth; and we must set our mark high, and make due allowance for the obstacles which are bound to beset us on every side. In other words we must be ambitious if we are to avoid and overcome irritability. A man without an aim in life is always irritable.

2. We must keep ourselves busy. "Satan finds some mischief still for idle hands to do," is an old saying. Assuming "Satan" to be the embodiment of all things contrary to natural law we see the force of the saying. The busy person has no time to indulge in the snarls and quarrels of life which add to irritability. If you are already irritable, see to it at once that there is employment for your hands and your mind as well.

3. Have an aim in life, and then set yourself a task for immediate fulfillment. Don't let it be all aim and

no realization. So arrange it that a specified amount of work must be performed in a given time, or that some purpose must be accomplished each day or other definite period. The realization of work accomplished is a great source of satisfaction and happiness.

4. Control the tongue. Irritability usually manifests itself by frequent loss of control of this important organ. It is like a wild horse, and must be curbed; and curbing the tongue will curb the mind in most instances. But let it not be imagined that simply by trying to be happy we can accomplish our purpose. One must avoid those things which are calculated to bring about moroseness of disposition; and we must observe the rules of health as laid down in this series of chapters. An unsound body is directly antagonistic to a cheerful and happy disposition; and moroseness is directly antagonistic to a sound body. But happiness and contentment and a healthy and fully developed body constitute the perfect human being—the being we were all designed by nature to become. Let us bear these thoughts in mind.

PLEASURE.

Enjoyment a Requisite of Health.

To enjoy life should be the privilege of every individual, rich or poor. But precisely what is meant by the enjoyment of life depends largely upon the nature and surroundings of the individual. What would be sport or pleasure to one might be a source of annoyance to another. Thus it is that the word "pleasure" is a relative term, and is readily comprehended as such.

"All work and no play makes Jack a dull boy," is an old saying, often met with the rejoinder that "all play and no work makes Jack a bad boy." Pleasure is essential to normal existence. Animal life, from the lowest form to man, the highest form, demands some form of pleasure.

The stern duties of life—the seeking of food and of shelter and the maintenance of self-preservation—

require a strain upon the mind which is decidedly routine in character in most cases. All performances of functions in the body are performed by alternate contraction and relaxation of the tissues composing them; and this alternate contraction and relaxation must be perfectly balanced and uninterrupted in order to secure perfect action. Whatever prevents or interferes with such action is a cause of disease.

Analogously, or perhaps in a precisely similar manner, the whole physical and mental being, involving the brain and nervous system, must alternately contract and relax with great regularity in order to maintain health. It is common language to use the expression that legitimate pleasures relax nervous tension, and that too strong a pursuit of pleasure brings about a too tense condition of the nervous system. And such is the fact. No organ or tissues can be used excessively in any direction without producing discomfort in some form.

Pleasures, to be such, must be indulged in within reasonable bounds. Then, and then only, are they healthful; otherwise they are absolutely harmful. It may be a pleasurable diversion for a child to "jump the rope," and if not carried to excess physical benefit will follow such exercise. But we know how easy a matter it is for a child to overdo "jumping the rope," and enjoy the exercise while it lasts, only to suffer from the excess afterward. In a similar manner every known pleasure of mankind may result disastrously if carried to excess.

Moderation Necessary.

As portrayed in the chapter on worry, the brain cannot be used in one direction constantly without the brain-cells being injured. Of course pleasure does not irritate the brain as worry does; for pleasure is a relaxation. But too great relaxation of any tissue will produce unpleasant results.

Let moderation be the rule in all forms of enjoyment. And to get the full benefit of the relaxation afforded by pleasures, enjoy them to their fullest extent while participating in them. Whatever the form of enjoyment you may choose never carry business or

sorrow or worry along with it. Learn to control the mind if you desire to enjoy life. A sumptuous meal or a healthful meal cannot be of much benefit to one who eats it while contemplating the cares of life. A trip to the country is robbed of most of its health-giving enjoyment by carrying with you your numerous anxieties.

Divorce Pleasure from Care.

"One thing at a time, and that thing done well, is a very good rule as many can tell," is a truthful saying. Nothing can be accomplished by allowing your thoughts to wander or dwell upon business or cares or petty strifes or sorrows, while you are presumably indulging in pleasures. You do not thus help your business or settle your strifes or alleviate your sorrow; but forgetting them completely for the time being will aid you to do all; for it will relieve your mind, and add to its strength to meet the harsh demands that may be made upon it. A life of pleasure is soon followed by a life of misery. But a life of happiness is one of stability, which can be secured by the alternate relaxation and contraction afforded by pleasure and work. While you are in the performance of pleasurable acts abandon yourself to them entirely; and while you are in the pursuit of business or the sterner realities of life devote yourself to them assiduously. But let each day find its due portion of both pleasure and business, as far as possible; then when emergencies arise requiring unremittent attention to matters of business or personal or domestic trial and endurance you will possess a mind and body equal to the emergencies. And when the season for a vacation from such cares shall roll around you will find yourself able to doubly enjoy it.

Nothing that injures the body when moderately enjoyed should be classed as pleasure. Beer drinking, or the indulgence in any form of alcoholic liquors, smoking or chewing tobacco, the administration of narcotics and the unnatural use of the body may cause sensations of pleasure while they are being indulged in by the false stimulation they afford the nerves of sensation. But all such indulgences are

enjoyed at the expense of vitality, as they are directly antagonistic to health.

Out-of-Door Sports.

Too much cannot be said in favor of the pleasures obtained by out-of-door sports within legitimate bounds. It is a matter of much gratification to hygienists, and augurs well for the future physical well-being of the American people, that so much attention is at present being paid to out-of-door sports, by both men and women.

It is not many years since the pale-faced maiden with a slender waist and a languid manner was regarded as the typical American beauty. But now the standard of beauty has assumed a more rational form. The rosy-cheeked girl with strong physique, who can discuss from experience the pleasures of the field of sport is the one most admired. Women seem to have determined, almost by an inspiration, that if the future race of Americans fails to be vigorous and healthful it shall not be through any fault of theirs. And while there may be many who still prefer to be pampered and to be considered delicate, their number is growing less and less.

Of our young men there is much to be commended in this direction; though in many ways they are far too prone to go to excess in matters of exercise. The desire to boast of excelling proficiency often urging them on to feats beyond the limits of proper physical exercise.

METHOD.

Helpful Rules for Living.

Method is the keynote of success; and this is true of life as well as business. No life can be successfully lived unless plans have been made for its career. Parents and guardians may map out the course of study and of action to be pursued by those under their control; but those who have grown to maturity must plan and perform for themselves. If you have not as yet laid down "Rules of Life" for yourself,

consider the following, and if you are satisfied that they are rules of life which are adapted to your welfare, follow them, and commence at once, no matter what may be your age or circumstances. It is never too late to strive to do right by yourself and others. If you are miserable from past neglect, so much the more need of changing your habits; and if you are only upon life's threshold, no better time for adopting rules of life can be yours.

1. Aim to develop and maintain a perfect physical body. But little can be accomplished by a suffering body. It is natural law that you should live at least one hundred years. If others have failed to do so, it is because natural laws have in some way been violated; and there is no necessity for your following in their footsteps.

2. Guard and develop your brain. Do not overcrowd it with useless information. No one mind can hold all the facts of the universe without being overcrowded. Choose the lines of study best suited to your tastes. Above all, do not be narrow-minded, but let your thoughts be broad and liberal, and do not measure others by your ability or possibly limited capacity. Appreciate your intellect, but allow others to entertain ideas even at variance to your own. Many a building has several aspects according to the point from which it is viewed.

3. Guard your tongue and keep it from evil. A word hastily spoken may be followed by years of regret. No member so easily causes sorrow as the tongue. Angry words are irritating to the brain, and an irritated brain soon brings about disease.

4. Systematically take bodily exercise. This does not necessarily imply gymnastics, nor a special course of training. Simply see to it that all the muscles are afforded opportunity for development.

5. Avoid excesses of all kinds. Too much food is as bad as too little; too much exercise is as bad as too little. Extremes in any line are dangerous to health. Let all things be done in moderation—whether business or pleasure, rest or exercise. Violence necessarily causes disease.

6. Guard the stomach. Eat only pure and proper foods and drink only pure and proper drinks. Avoid mineral substances as you would poison. A few salts are allowable and are necessary. But remember that minerals cannot be assimilated by the system. Study the chapter on foods (page 74) and reason out the most suitable diet for your individual constitution and necessities. Be on the alert for adulterations, and take into your stomach only what reason justifies. Let this rule be strictly adhered to in sickness as well as in health. Let no physician drag you backward into the superstitious of the dark ages and persuade you that poisonous drugs in some mysterious manner are able to "cure disease." Poisons are destined to kill and no subdivided doses can alter their characteristics. Nature alone can heal.

7. Cultivate a happy disposition under all circumstances. Look upon the bright side of things, and see good even in the midst of evil. Criticism of others will sour the mind and lead to moroseness of disposition. Live at peace with all mankind under all circumstances.

8. Be diligent in business and success will surely follow; and with success, if other rules are followed, there will come an enjoyment of life that cannot otherwise be obtained.

9. Be honest. Honest to your self, your Maker and your fellow-men. Nothing so debases a man in his own estimation as dishonesty,—it injures the mind and robs life of one of its greatest pleasures. The satisfaction of doing right and deserving your own esteem and that of others, whether you receive the latter or not, is worth striving for.

THE TEMPERAMENTS.

Their Characteristics and Influences.

Peculiarities of dispositions and of physical formations are termed temperaments when taken in the aggregate. All mankind may be classified under four temperaments — Sanguine, Nervous, Bilious, Lymphatic.

The mingling of these temperaments in equal proportions in one individual would constitute an ideal specimen of manhood. But such a mingling seldom occurs—nearly everyone having one or the other of the temperaments markedly manifest; though it is seldom that one temperament predominates to the total exclusion of the others.

Sanguine or Vital Temperament.

Persons with this temperament very pronounced are often spoken of as “full-blooded.” Their chests and muscles are well developed, and their blood circulates freely, giving them a robust or ruddy appearance.

They thrive best in out-door occupations and cannot endure restraint of any kind. They are usually bold and enterprising; but often fail of success from insufficient persistency. Naturally they are long-lived; but their love of eating is often disastrous.

Their mental capacities are usually large, and their influence is marked. As a rule they are leaders of thought, and advance ideas, delighting to be pioneers in all things rather than followers; and their impulsiveness is liable to lead them to errors.

Persons of vital temperament are very liable to suffer from disturbances of the circulation, fevers, congestions, inflammatory rheumatism, hemorrhages, violent headaches, etc. As a rule they are easily affected by medicines. Diseases may take a severe turn with them suddenly; but they are liable to recover very rapidly when the crisis of a disease is past.

Nervous or Mental Temperament.

A person of this temperament will have a large brain, or rather the front part of the brain will be well developed if the head is not large. The general build of the body is slender and the muscular system not well developed; the features fine and the hair soft.

Persons of this temperament love mental work and study, and are usually averse to out-door and physical pursuits except as a performance of duty. They evince great powers of endurance. Their acuteness

of perception and sensitiveness of feeling are most pronounced.

In disease they suffer intensely and are liable to brain complications, being prone to delirium and convulsions. Their small arterial systems render them subject to cold and lung diseases. Spinal troubles, neuralgias and constipation are to be dreaded by them. All persons of nervous temperament should endeavor to restrain their excessive mental activity and give more attention to their physical development and seek periods of rest. They require very small doses of medicine to produce effects.

Bilious or Motor Temperament.

This temperament is marked by a largely developed bony system, broad shoulders, large knuckles and a general angular appearance to the body—the muscles being firm and wiry. As a rule the hair is dark and the skin sallow.

“Bilious” persons can endure great hardships and are fond of muscular exercise, though their movements are slow. Their mental activities are not brilliant, though often the deepest thinkers are of this temperament—ideas being evolved slowly, but being maintained persistently. They are subject to spells of “the blues.” Disease is contracted by these persons very slowly, but is apt to get a strong hold upon them, and convalescence is slow, although they often retain a strong hold upon life under adverse circumstances.

These persons should not use tea or coffee and should take plenty of out-door exercise. They are extremely liable to constipation and liver troubles. Large doses of remedies are required to cause an effect upon them.

Lymphatic or Phlegmatic Temperament.

Persons of this temperament are large and well formed, and are easily fattened. They are sluggish in disposition and are proverbially “lazy.” During disease they do not manifest good resistive powers, and are extremely liable to scrofulous or malignant disorders or tumors. Out-of-door exercise would be

most beneficial to them; but they are not prone to indulge in it. Their sluggishness, coupled with their usual excessive indulgence in eating, makes them undesirable patients during disease.

A mixture of temperaments is most favorable to health and long life; and when any one temperament strongly predominates, the habits of life should be such as to counterbalance its evils and favor the development of other characteristics.

HEALTH.

The Natural Condition of the Body.

An erect, well-formed figure, a clear and ruddy countenance, an elastic step, unconsciousness of involuntary actions, and a desire and capability for physical and mental work, are characteristics of HEALTH.

Such conditions necessarily imply the regular and uninterrupted performance of all the functions of the body in a natural manner; including the desire for healthful food, its perfect digestion and assimilation, and a corresponding elimination of the waste materials—involving the normal secretion of all the various fluids and products of the system.

The least departure or deviation from such a natural condition constitutes a source of danger to the whole organism. Interruption to the performance of the seemingly most trifling functions of the body destroys the harmony of action which is so necessary to perfect health. The slightest interference, if not corrected, is capable of proving the source of a most general disturbance of systemic action.

In order to fully comprehend in what manner deviations from the normal standard of action may occur it is necessary for us to know many facts concerning the tissues and organs and functions of the body. These facts are simple and easy of comprehension. All natural laws are simple and easily grasped by intelligent minds. It is the philosophies of men and their theories which confuse. And in medicines, as in all sci-

ences, it was apparently intended that mankind should be able to learn by intuition and study and experience those things necessary for the welfare of his own being.

Definition of Health.

Perfect ease throughout the body, is probably the most concise definition of health. The blood must flow easily, the muscles must act easily, the nerves must respond to impressions easily, and every function must be performed easily, without interference or hindrance from any cause whatever. *Ease* implies freedom and natural conditions; and *disease* implies restriction or interference, and unnatural conditions.

The Attitude.

The natural attitude of the human body during activity is erect; and all the organs and tissues and blood vessels and nerves have been constructed in conformity to that posture. Any continued deviation from an erect attitude necessarily changes the relationship of organs one with another, and eventually alters the character of the tissues composing them.

For instance, should the shoulders be persistently bent forward serious consequences would inevitably result. The upper portions of the lungs would be crowded upon and hindered from performing their natural functions. Under such conditions the minute blood vessels of the parts could not convey sufficient blood to properly nourish the adjacent tissues; which would consequently soon become altered in character. The small tubes in the crowded portions of the lungs would become diminished in calibre and the free passage of air through them would be hindered, and the blood that should be aerated at that point would not receive its proper supply of oxygen. Also the crowded condition of the tubes would not permit the proper movement of the mucous secretion they contain; and that secretion would become viscid and then degenerate. Beside these conditions, the cramping of the nerves would play an important part in producing trouble. The sensation of pain would likely be produced; or a benumbed condition might follow.

Thus by a continued inclination forward of the shoulders it would become impossible to perform many of the important functions with that *ease* which is necessary to health. *Disease* would follow, and the structures, improperly nourished and rendered incapable of action, would soon degenerate and a *consumption* of the lungs would follow.

Spinal diseases are likewise often caused by a continued unnatural position of the body. If forward inclination is persisted in, increased pressure is exerted upon the anterior surfaces of the vertebræ or bones of the spine, and insufficient pressure is exerted upon the posterior surfaces. Consequently the anterior structures of the coverings of the bones become too dense, while at the same time the posterior portions of the coverings become spongy and too thick. This condition soon results in permanent curvature of the spine. And the altered and unnatural conditions present effect a changed condition of the spinal cord of serious import.

The Blood.

The blood current throughout the body is naturally active, and the arterial blood free from impurities. It contains only such substances as are necessary to nourish the various tissues with which it comes in contact. Each portion of the body, no matter how dense or minute, receives its due amount of nourishment from the life-giving fluid. As provision is made for supplying food, so is it arranged to carry away the waste products and effete materials of the system. The various organs of secretion and excretion, the lymphatics and veins all have their specific duties to perform, and are naturally adjusted perfectly to the arterial system. The least disturbance in any one of these organs disturbs the harmony of the whole and produces a condition of disease made manifest by various signs, termed *symptoms*.

A lean body, a sallow or pale countenance; a redundancy of flesh, or a continued flushed or purple hue to the skin, all denote an unnatural circulation.

The blood may be deficient in nourishing materials, or it may be surcharged with them. The waste mate-

rials may not be entirely carried away from the system, but may re-enter the circulation and be conveyed with arterial blood as a poison, to do damage to tissues or to be deposited in organs to hinder the performance of their functions. Again, pressure may be exerted by abnormal organs or otherwise upon large or small blood vessels, and thus interfere with the circulation. In innumerable ways may disease be incurred through the blood current.

Performance of Functions.

One of the most important and earliest realized indication of a disordered condition of an organ or set of structures is the consciousness of the performance of involuntary actions. The heart is a typical involuntary organ, and whenever its function is performed in such a manner as to cause pain or inconvenience or even knowledge of its existence there is evidence of derangement somewhere in the system, if not in the heart itself. The lungs, likewise, should perform their functions without effort. Breathing should be carried on unconsciously and with regularity. The stomach should digest food without pain or inconvenience. The bowels should call for at least daily evacuations, which should afford pleasurable sensations of relief. In fact, every natural action of the body should be freely and easily performed.

Life is naturally a pleasure, and whenever it becomes otherwise disease is present. If life is burdensome on account of the struggle to maintain existence, then the social relationship is at fault and must be corrected by the laws of political economy. If remorse or fear of futurity renders existence a torture, religion or philosophy, or both, are ready to offer remedies. But if there is no pleasure in life on account of bodily sickness or disease then it becomes imperative to "know thyself," search for the cause of the difficulty and intelligently seek to overcome it.

Experiment is a dangerous pastime for those in ill health. Experience then becomes invaluable when it can be intelligently utilized. In plain words and by common sense explanations and directions this volume presents the means of recognizing diseases and scien-

tifically and successfully treating them. The knowledge and experience of many years is placed at the disposal of all who will receive it.

DISEASE.

Departures from the Healthy Standard.

To anyone observant, it will be readily seen that the functions of the body are rhythmical. The breathing and the pulse are most manifest illustrations of the method of action throughout the body. Under the microscope can be seen the smallest particle of living matter capable of separate existence—termed *protoplasm* or, more correctly, *bioplasm*.

Bioplasm is a minute jelly-like particle, and when placed upon the microscopic slide surrounded by a nourishing fluid at the temperature of the body its actions can be observed, and are most interesting: Involuntarily it alternately contracts and relaxes with perfect rhythm; at the same time it appropriates the food about it and grows—that is, prolongations are put forth which soon separate from the mass and become independent particles with rhythmical motion.

Of such particles of matter is the body initially composed. These particles throw out about themselves a material (called *formed material*) which encases the living matter—the whole being called a *cell*. These cell walls become more and more dense; and thus is readily explained the changed conditions caused by age and the inevitable approach of death, when (if by old age) the amount and condition of formed material no longer admits of the natural rhythmical action of existence.

Every organ and tissue of the body—blood, muscles, bones, ligaments, etc.,—are masses of cells and living matter, each structure composed of its peculiar kind, moving, living and dying constantly. All must be nourished, and each must have its peculiar environment, including perfect freedom of movement and a temperature which can vary only a very few degrees with safety. Such is the basis of living tissues; and as the smallest particle of gold represents the mass,

so does the smallest particle of the various kinds of living matter represent the aggregate in method of action and in character.

The Life Power.

It is impossible to comprehend the force or power which controls the actions of the body, builds tissues, carries away effete materials and performs the functions of the various organs. It can be designated as the life power, or vital force or vitality; and its purpose is always conservative—endeavoring under the most unfavorable circumstances to carry on the natural actions. This endeavor is the only hope of a restoration to health during disease; and this endeavor, recognized by all, gives us the key to aid the efforts made.

Manifestly the power itself cannot be primarily disabled, for it is always striving to maintain control. Therefore the source of unnatural actions or disease must lie in unusual conditions of the tissue themselves, which do not permit the life power or vital force to use them in a natural manner. This is the fact. Fever, spasms, chills, inflammations, etc., are not themselves the *diseases*; they are simply inevitable consequences of inability of the vital force to control the altered tissues in a natural or healthy manner.

Thus, pain, fever, inflammation, etc., are but symptoms of disease which aid us in locating the tissues or structures which are altered in character through influence at variance with their normal condition. For instance it sometimes happens that the surface becomes greatly chilled beyond resistance, and an extra quantity of blood is forced inward and crowds into the lungs. The pressure of the extra blood upon the nerves causes pain in breathing and heat from inflammation (the increased flow of blood).

The pain can be relieved by narcotics paralyzing the nerves so that they cannot convey impressions; but this does not alter the condition which caused the pain. A little thought will make it plain that means must be employed to put the tissues in such a condition that there will no longer be an excess of blood in the lungs to disturb the natural relationship there.

The circulation must be given a chance to be equalized throughout the system, when the pain and inflammation will subside and the parts affected be restored to their natural condition.

Unnatural Conditions of Tissues.

Although there are almost innumerable forms of disease, manifested by a great variety of signs or symptoms, varying according to the degree of interference to the action of the vital force and according to the parts affected, still there are but a few general departures from the normal conditions which may occur.

1. The tissues may become too relaxed or loose, and thus be unable to regain their natural tone. In the alternate relaxation and contraction of the particles of matter composing them there would be evidence of a lack of power to contract sufficiently. Such a condition is present in all cases of general depression—fainting, narcotic poisoning, collapse, etc.

2. The tissues may become too contracted or tense; the particles of living matter composing them by no means being able to relax sufficiently to carry on the normal rate of alternate contraction and relaxation necessary to maintain natural function. Such is the case in most instances of derangement, and the hard pulse of fever is an indication of its existence. Cramps, stiffness of the muscles, irritations, etc., all indicate too great tenseness of tissues in the parts affected.

3. The tissues may be damaged by miscellaneous substances. Without, substances may inflict wounds, bruises, cuts, burns, etc., and within there may be corrosions or other injuries from poisons, or obstruction to normal action by the presence of foreign bodies.

4. There may be accumulations of effete or waste material, or the circulation may be impeded by accumulations of abscesses, etc., or abscesses and ulcerations may destroy vessels and various tissues.

5. There may be improper environment, which will interfere with the control of the vital force over the tissues. Too great cold, or too great heat, or too great moisture, or a poisonous atmosphere, or filth or other

coatings over the surface may close the pores of the skin and make it irresponsive to vital efforts.

Conditions of Organs During Disease.

Before methods of treatment can be intelligently agreed upon it becomes a necessity to ascertain what organs, structures or tissues are involved and in what manner they have departed from the normal standard of health. Total inability of a structure to respond to vital action soon results in disintegration or destruction of that structure. Gangrene is one form of destruction, and is the surrender of a tissue by the vital force to the lower chemical force. Partial inability is always fraught with danger.

Whenever there is too great rigidity or tenseness of an organ or structure, there is apt to be an accumulation of materials which would interfere with normal action and themselves become degenerate. This is due to the tenseness of the structures diminishing the calibre of the vessels which permeate them. Blood accumulates in the capillaries of the lungs during pneumonia, in the brain during inflammation and in the skin during inflammatory fever. Whenever there is an excess of blood in any one part, there is necessarily a deficiency elsewhere.

Too great tonicity or tenseness in organs is dangerous in many ways. Under such a condition the liver secretes less bile, the skin eliminates less perspiration and the kidneys excrete less urine. The continuance of such a condition causes such waste material to accumulate in the system and to degenerate and become highly poisonous and capable of producing serious trouble elsewhere in the body by being absorbed and carried to remote parts by the circulation.

The reverse of such a condition exists when there is too great relaxation of tissues. The functions of organs are not performed, from want of sufficient organic power. A common instance is the inability to perform muscular exertion after a prolonged sickness. When a secreting or excreting organ is too greatly relaxed an excessive amount of its fluid may pass through it without effort and greatly exhaust the whole system. In diabetes the flow of urine is enor-

mous; in advanced consumption the sweat is overwhelming on account of prostration; and in cholera, which is a profound congestion, the serum is drained off through the bowels in what is known as the rice-water discharges. When the radicles of the veins are too relaxed or when they are persistently obstructed by external or internal pressure, the fluids accumulate in adjoining cellular tissues and constitute what are commonly known as dropsies.

Any influence which may interfere with the free and natural performance of a function may become a cause of disease. The difficulty does not exist in the irregularity of action itself, but rather in the condition of the tissues or organs which would not permit the vital force to use them in a natural manner. The abnormal or irregular actions, then, are but the signs or symptoms of altered conditions of tissues.

The greater the obstruction to free vital action, and the wider the departure of tissues from their normal responsive character, the more ardent will be the vital struggle to restore the system to its natural condition. This struggle of the vital power often succeeds, unaided, in accomplishing the desired object. Fever is not desirable, for it always indicates obstruction; still where obstruction exists the violence of the arterial excitement is an indication of the degree of impediment to healthful action, and also of the power of the system to overcome abnormal conditions; and the reduction of fever by the administration of antipyretics which simply reduce the heart action in nowise aids in removing the obstruction, but rather hinders its removal at the same time it destroys a valuable indication of the degree of vital resistance.

Acute and Chronic Diseases.

Diseases are usually classified as *acute* and *chronic*. In acute disease the derangement is sudden and the obstructions usually capable of being removed in a comparatively short time, or else they are liable to quickly cause fatal results. Some acute troubles have a definite time of existence—such as measles, small-pox, etc.,—and the time can rarely be shortened, though it can be lengthened by various circumstances.

Often an acute trouble becomes *chronic*, or rather the obstructions of an acute trouble not being completely removed, remain in the system, and permanently interfere with natural action.

Chronic diseases are usually the result of slow changes or gradual accumulations throughout the system or in special organs or tissues. They are not readily overcome, for tissues altered in character, through perhaps years of abnormal influence, cannot be easily restored to their natural condition. It is usually the case that a number of influences exerted slowly are accountable for chronic diseases, rather than that such diseases are due to any one special cause.

First Principles of Medication.

The departures of tissues from natural conditions are few in character and have been briefly stated. The methods to be resorted to in restoring them to their healthful state may be based upon a few principles.

- I. Tone and stimulate relaxed conditions.
- II. Relax tense and contracted conditions.
- III. Remove accumulations, obstructions, poisons.
- IV. Provide proper environments.

Such methods involve the employment of hygienic measures and all other aids procurable, besides frequently the administration of true remedies known by experience to accomplish desired results. Although hundreds of thousands of drugs, chemicals and preparations are employed by physicians in the treatment of disease, the great majority of them are worse than useless and many of them absolutely dangerous. True remedies aid nature by tending to place tissues in a condition that the vital force can utilize. There are thousands of such remedies, but they may be simply classified as (1) stimulants, (2) astringents or tonics, (3) relaxants. Under these heads could be enumerated agents adapted to special organs or classes of tissues, graded according to their power and activity. Their employment therefore is based upon

scientific principles, and may be confidently relied upon.

CAUSES OF DISEASE.

How Performances of Functions May Be Interfered With.

Anything that interferes with the natural performance of any function of the body may become a cause of disease. The organism being the most delicate and intricate piece of machinery ever contrived, it necessarily requires but little to disturb its perfect action.

Keep the head cool, the feet warm, and the bowels open. This may be regarded as the simple rule of preserving health, and the object to be attained when disease occurs.

If we consider the distribution of the blood throughout the body, it will be realized that the circulation may be divided as follows: *Upper* circulation—from the diaphragm upward; *lower* circulation—from the diaphragm downward; *outward* circulation—throughout the surface; *inner* circulation—through the organs and walls of the canals of the body. Naturally the blood flows through these various divisions of the blood vessels evenly, in proportion to their extent and the importance of demands.

If, for any cause whatever, the proportion of blood naturally flowing through the outward circulation is diminished or checked there will be a corresponding increase in the inner circulation. For instance, it is well known that cold contracts; and should the surface be exposed for a great length of time to cold, or for even a short time to severe cold, the minute blood-vessels of the skin may become contracted to such an extent that blood cannot flow through them naturally, and the amount is diminished; consequently the surface becomes pale and cold, and the blood is crowded *inward* upon internal organs, causing inward inflammations or obstructions to free performance of functions by the excess of blood in the organs.

Pneumonia is an example of a severe disease caused by the chilling of the surface, driving the blood in-

ward upon the lungs. Manifestly an important point is gained in such cases when the outward circulation has been restored and the inner organs consequently relieved.

The proportion of blood flowing at any one time through the head is very small compared with that of the rest of the body; and disturbances of circulation elsewhere are quickly manifested in the brain by "head symptoms" being prominent in most of the acute diseases.

The bowels constitute the great canals of the body which serve to carry food in a condition ready to be absorbed. They are also the canals through which the effete or waste material is carried away. If, from any cause, this waste material is allowed to accumulate in the bowels, it not only distends them and causes pressure on adjacent organs; and also hinders the circulation through blood vessels pressed upon; but the accumulations are partially re-absorbed, and the poisonous effete materials are carried about in the circulation—doing damage wherever they go.

Thus may be realized the great importance of keeping the head cool, the feet warm and the bowels open. And it is plain that during disease a great step toward recovery is taken when the circulation has become equalized, and the secretions and excretions are free.

Disease Resulting from Cold.

A cause of disease is capable of developing derangements in various ways. Sudden chilling of the surface by unnatural environment, for instance, may produce one or more of several different troubles. As stated, the contraction of superficial blood-vessels result in an excess of blood being thrown upon the inner circulation. Just what organs will be engorged or overburdened by the extra blood directed inward depends upon various circumstances, or rather upon the conditions of the organs themselves. If the lungs are sensitive, or small or crowded upon by unnatural position, the excess of blood will do damage there, as they offer the least resistance to an increased flow. In such a case lung trouble would follow exposure to cold. Those who indulge in alcoholic beverages will

find their kidneys least able to withstand disturbance; rheumatic persons or those of gouty tendency will suffer accordingly; and those who keep their stomach and bowels constantly weakened by overindulgence will have a diarrhœa follow exposure. A moment's reflection reveals nature's rule in succumbing to evil influences.

When all organs are apparently in health a great degree of cold may be endured without harm. If exposures drive the blood inward upon organs not especially weak, the excess of blood will usually cause the greatest inconvenience in the mucous surfaces where the blood vessels yield readily to increased volume of blood. Thus it is that cold, wet feet cause sore throat by driving the blood of the lower circulation upward and the easily distended blood vessels of the throat (the parts made sensitive by cold air) suffer most, and they become engorged and a throat trouble follows—a *disease* or discomfort in that part.

Thus it may be seen that more than one circumstance is usually necessary to cause disease. There are exceptions; for instance, contagious diseases are caused by a specific poison. But even then it is evident that the system must be in a measure deranged to permit the specific poison to have its effect, otherwise everyone exposed to a contagious disease would contract it, which we know is far from being the case. Indeed it is doubtful if a person in perfect health could contract a contagious disease by simple exposure.

SYMPTOMS.

Good and Bad Signs During Disease.

Much may be known concerning the nature and progress of diseases by closely observing the patient; and dangers may be averted by an intelligent knowledge of what are the first indications of danger; and anxiety may be relieved by understanding the indication of a tendency toward recovery. There is no one sign which of itself is sufficient ground for the passing of judgment upon a disease; but the association of

signs and circumstances must be relied upon. What would indicate approaching death in an old and feeble person might be of little consequence in a robust man of middle age, whose resistive powers against disease are great.

The Pulse.

The manner in which the blood circulates throughout the system is an important feature in disease; and can be readily ascertained by feeling the pulse.

Frequency refers to the number of beats per minute.

Strong or *weak* describes the degree of resistance offered to pressure of the fingers against the artery.

Full or *small* describes the volume of blood apparently passing through the vessels.

Hard or *soft* refers to the apparent condition of the walls of the artery.

Sharp or *feeble* denotes the character of the stroke felt by the finger.

While the pulse is perhaps the most important aid in ascertaining the gravity of diseased conditions, still its language must be fully understood to make it valuable. The character of the normal pulse differs in different individuals. Age, temperament, sex and mental disposition influence it in various ways. It is small, soft and frequent in childhood, and slow and hard in old age. The frequency of the average pulse in health (sitting posture) is as follows:

From birth to the sixth year.....	135 to 100
From the sixth to the fifteenth year.....	100 to 80
From the fifteenth to the twenty-fifth year..	80 to 75
From the twenty-fifth to the sixtieth year...	75 to 65

Standing increases the frequency four to eight beats and lying down decreases it two to four beats per minute. Nervous and full-blooded persons may have a higher rate, and bilious and lymphatic persons a lower rate by a few beats. In women the frequency is from two to four beats in excess of men.

A full, strong and frequent pulse during disease indicates extensive obstructions and an ardent effort of the vital force to overcome them.

A frequent and small pulse shows depression, and is a bad sign following the pulse just stated.

A small, hard and very frequent pulse is an indication of internal hemorrhage.

A small, quick and frequent pulse occurs during nervous prostrations and is unfavorable in low grades of fever.

A strong, slow pulse usually accompanies congestions, such as apoplexy.

An irregular pulse usually indicates a feeble condition of the heart, and irregularity associated with great frequency indicates a serious condition.

The Breathing.

Respirations vary in direct ratio with the frequency of the pulse; being, like it, influenced by age, sex, temperament, etc. The frequency of respirations per minute range from 35 in infancy to 17 in adult life. They are slower during sleep than during wakefulness; and in persons of a most decidedly bilious temperament and sluggish disposition ten and twelve respirations per minute are not incompatible with health. But such instances are exceptional. An increased or decreased frequency may occur in anyone through excitement or otherwise and be of no special importance. But when disease is present and there are other signs observed, then disturbances of the respirations are worthy of note.

Slow breathing occurs in organic disease of the heart and in concussion of the brain or spine, and is a bad sign if at the same time the pulse becomes weak and the extremities cold; although in temporary fainting such a condition need cause no alarm.

Slow and very full respirations may indicate pressure upon the brain, as in apoplexy.

Feeble respirations are usually premonitions of death in typhoid and typhus fever, consumption and other lingering diseases, especially if the pulse at the same time becomes feeble, frequent and irregular.

Labored breathing, where there is a great effort to get the breath, is caused by obstructions in the air passages, by accumulations or altered conditions in the

lungs, as in croup, asthma, etc. If inspiration (inward breathing) is difficult, the obstruction is in the larynx. If expiration (breathing out) is difficult, the trouble lies in the bronchial tubes.

Snoring breathing in disease is a bad sign; as also is hiccough in lingering maladies unless directly traceable to indigestion or an overloaded stomach.

Difficult and painful breathing accompanied by a smothering sensation always indicates a disturbance of the circulation between the heart and lungs. Occurring temporarily from nervousness it is of but little importance; but when it is continuous in throat and lung troubles it is bad. When breathing can be carried on only in a sitting posture the heart is at fault, as a rule; though such a condition in asthma is not to be considered serious.

When, during respiration, the ribs move and the abdomen remains stationary, diseases of the stomach, liver or spleen may be suspected; or peritonitis or inflammation of the bowels. Other symptoms will aid in determining the structure involved.

When the ribs remain quiet and the abdomen moves during breathing, pneumonia or pluerisy may be the difficulty.

If possible, count the respirations without the patient's knowledge, for the consciousness of the breathing being watched often creates a nervousness which temporarily alters it.

The Temperature.

The natural heat of the body is a slight fraction over 98° F. Observations may be taken by a clinical thermometer placed under the tongue or in the arm pit. A temperature below normal is always bad. A *high* temperature is to be expected in all cases of fever, and in some maladies a temperature of 105° would be regarded as serious, while in others it would be expected. Under descriptions of the various diseases the temperature commonly met with in each will be given.

Increase in temperature usually occurs in direct proportion with increase of pulse frequency and of respi-

rations. The following table indicates the usual ratio of pulse, breathing and temperature in an adult.

80 Pulsations...	18	Respirations...	99°	Fahrenheit
88	"	...19 (plus)	"	...100°
96	"	...21 (plus)	"	...101°
104	"	...23	"	...102°
112	"	...25 (minus)	"	...103°
120	"	...27	"	...104°
128	"	...28 (minus)	"	...105°
136	"	...30	"	...106°

As long as this harmony is maintained there is less dread of serious consequences occurring even though a temperature of 106° may be reached. But in proportion as the harmony is broken there is ground for fear of serious results. Thus a temperature of 104°, with respiration at 18 and the pulse at 136, would be a most serious departure from harmony.

The Tongue.

The condition of the mucous membrane throughout the body is controlled to a great extent by the various secretions, the nerves, and the character of morbid material in the organism. The tongue has over it a continuation of the mucous membrane of the body, and therefore its condition is indicative of much in disease.

A *dry* tongue denotes internal irritation. It may be only temporarily dry, as in acute stomach irritation and diarrhœa. But if it continues exceedingly dry there is serious internal inflammation.

The *color* of the tongue is important. A *bluish* tongue represents interference with respiration, as in heart disease, asthma, etc. A *scarlet* tongue denotes acute inflammation, usually of the stomach, if red along the edges and at the tip. *Redness* along the center indicates intestinal irritation, and is an early sign in typhoid fever, and if glassy it is a very unfavorable omen. A "*beefy*" tongue usually occurs in chronic inflammations of the bowels or liver, or general mucous surfaces.

A *furred* tongue occurs in nearly all fevers. If the fur is light and moist, simple irritation of the stomach is indicated. *Heavy* fur shows greater disturbance and a tendency to more serious trouble. *Yellow* fur indicates a liver derangement. *Brown* fur is always a bad indication, and the deeper the color the worse the omen; it points to nervous prostration and a tendency to putrefaction, and when accompanied by dryness and fissures, a very grave condition is present.

A *trembling* tongue denotes nervous prostration, and occurring during a tedious sickness is very unpromising.

A clearing away of the fur from the tongue is usually indicative of improvement. If the coating slowly disappears, commencing at the tip and edges, and leaving a natural appearance, permanent recovery may be expected. If the fur comes away in patches, leaving a smooth red surface, recovery will be slow. If the fur disappears rapidly and leaves a glassy or cracked surface, the sign is unfavorable.

False membranes, pimples and pustules may cover the tongue or its edges or tip. When these are angry or malignant looking they are bad, especially if they occur during diseases. A red cracked tongue, not the accompaniment of an acute malady, points to kidney trouble.

The Surface.

Coldness of the surface always indicates recession of the blood to internal organs; and the greater the degree and length of a cold surface, the more severe is liable to be the malady which follows. Chills and coldness in the latter stages of acute troubles are bad. A cold face with hot body is unfavorable. A warm face with cold extremities indicates brain trouble. Heat over the chest or upper portion of the back, with cold extremities, denotes lung trouble. A cold forehead is usually unfavorable, and a cold nose is not a good sign in acute internal inflammations or acute troubles of any kind. One cheek hot and the other cool shows hectic or nervous fever.

The *color* of the skin is important. A *purplish* hue shows interference with circulation through the lungs. In intermittent fevers and pneumonia it is very bad;

and at the close of any acute difficulty it is undesirable; though in asthma and in typhus fever it is common. A *livid* appearance is unfavorable; and an almost *black* skin in eruptive diseases is bad. *Yellowness* indicates the absorption of bile and points to liver derangement. An *ashy* countenance indicates malignant difficulty, cancer, scrofula, Bright's disease, etc. *Paleness* may be due to sudden nervous prostration, or to a deficiency of the red blood-corpuscles, as in dropsy, paralysis, etc. When paleness is accompanied by heat it is unfavorable. *Red spots* upon pale cheeks suggest tubercular difficulties; though ordinary cases of worms may occasion them. *Local redness* may be occasioned by inflammations of adjacent organs; or by diseases of the skin. A *clear red* color to the skin is favorable, and a *dark red* unfavorable.

Sweating.—A warm, free perspiration, not too watery, is always favorable, especially following fever. *Cold sweats* indicate nervous prostration, and clammy sweats and watery sweats are always unfavorable.

The Countenance.

A quiet, peaceful expression is favorable, unless it occurs suddenly after long continued pain. An indifferent expression and fixed, bright eyes are bad. Contortions of the face indicate abdominal trouble. Paleness, with cold ears, a sharp nose, and a sunken look to the temples constitute what has been called the Hippocratic countenance. Such a countenance is unfavorable. Wrinkling of the forehead indicates brain trouble, as also do firmly contracted eyelids. Sleeping with the eyelids only partially closed is not good. A pinched nose, and rapid movements of the wings of the nose are unpromising. Shrunken cheeks and an emaciated appearance of the face and temples may be regarded as serious signs in chronic diseases and in acute bowel troubles.

The Position.

Quietude with great weakness in acute fevers is unfavorable, unless such quietude is resorted to from fear of pain or for enforced rest. Quietude with

strength and consciousness is good. Inability to lie down indicates heart or lung troubles, and is unfavorable if persistent. Lying constantly *on the back* denotes abdominal tenderness. A position *on the abdomen* indicates pain in that region; and lying on the *right side* may be resorted to in organic heart trouble. *Tossing* about occurs during pain. *Sliding down* in the bed during a serious sickness, is a most unfavorable sign.

Sleep.

When natural, sleep is encouraging and should be obtained if possible. *Sleeplessness* is unpromising, unless caused by local pains from difficulties not of themselves serious. *Uneasiness* in sleeping is bad; suddenly waking soon after going to sleep may indicate heart troubles. Intestinal irritations, such as worms, may cause sudden startings in sleep with confusion of the mind. Unusually long and *heavy sleep* indicates pressure on the brain. A very long and easy sleep after restlessness or pain and during convalescence is favorable. A very *profound* sleep, termed sopor, coma or lethargy is always bad, especially when it follows convulsions or delirium.

The Nerves.

Delirium is usually a bad sign, though it is to be expected during even slight fever in nervous children, and in all acute cases delirium coming and going with the rise and fall of temperature need not be regarded seriously. Delirium following hemorrhage or profuse sweating, accompanied with prostration and paleness, is bad. Furious delirium may occur during high fever, and a low, muttering delirium (a serious thing) often occurs in low grades of fever. A quiet delirium with sinking pulse is bad; as also is the sudden cessation of delirium with continued unnatural pulse and respirations. Quiet and natural sleep after delirium is always good.

Pain.

A *fixed* pain denotes a derangement at one special point; and the sharper the pain the deeper the seat of

trouble. *Continuous* pain shows persistent obstruction, and a tendency to suppuration. Increase of pain by pressure indicates inflammation. In colic, neuralgia and simple irritation, pressure does not increase pain, but often diminishes it. *Remitting* pain is usually not unfavorable. Absence of pain in troubles that should be painful, denotes pressure on the brain. The sudden abatement of pain, while other serious symptoms continue, is bad. Pain in the front of the head indicates intestinal or liver derangement, unless known to be from catarrh. Great mental exertion or sympathetic irritation may cause pain in the forehead. Pain in the top of the head denotes sexual disorders, or may accompany hypochondria or hysteria.

Restlessness is unfavorable during acute troubles, except occurring just before a critical discharge. General uneasiness precedes the reaction of fever, and when long continued points to extensive obstruction. Anxiety about the heart during respiration indicates organic disease of that organ. A feeling of local anxiety after acute pain points to suppuration; or in typhoid or nervous fevers it precedes great prostration.

CONTAGIOUS DISEASE.

Precautions which Should Be Observed.

In any case of contagious disease the patient should be placed in a room apart from the rooms occupied by other members of the family. Where it is possible the adjoining room, between the sick-room and other rooms on the same floor, should be completely emptied and its doors and windows kept open as much as practicable.

The sick-room should be large, easily aired and have a good sunlight exposure. The patient must have plenty of fresh air night and day. Sunshine and fresh air are potent remedial agencies in any contagious disease. If possible, when the weather is too cool for open windows, heat the room with an open fire. If there is a fire-place have a fire in it, even if other heat must be used. A stove makes the worst kind of heat

for the sick-room. If it must be used keep a pan or a kettle of water on it. Place the bed near the center of the room without letting the air blow directly on the patient.

Isolation.

If the room connects with others which must be occupied lock all the doors but one for exit and entrance, and fasten to their frames—top and sides—sheets of cheap cotton cloth, kept wet with a disinfecting fluid. These sheets must be long enough to allow two or three inches to lie on the floor. This will prevent the contagion from getting into the adjoining rooms through the crevices of the doors. Over the door to be used the sheet on the outside must not be tacked at the bottom nor along the full length of the lock-side of the frame, but about five feet may be left free to be pushed aside; this sheet must also be long enough to lie in folds on the floor and must be kept wet with the disinfectant.

No article of furniture—carpets, rugs, curtains, ornaments, books, etc.—except the things actually necessary for the care and comfort of the patient should be left in the sick-room. Exclude cats, dogs and other pets, including birds, from the room, since these are liable to contract and carry some of the contagious diseases.

No person except the strictly necessary attendants should be allowed to enter the sick-room. These should wear only such clothing as can be washed in boiling water; especially avoid garments made of rough woolen material. The hands should be rinsed in a disinfecting fluid immediately after every attention to the patient. The attendants should avoid inhaling the patient's breath; and in case of diphtheria or croup, if the patient coughs in the attendant's face she should notify the physician as soon as practicable.

Cleanliness.

The floor of the sick-room must not be dry-swept. If it becomes necessary to sweep, first sprinkle the floor thoroughly with tea-leaves or sawdust wet with

a strong disinfectant--and *burn the sweepings at once*. Instead of sweeping, it is better to go over the floor with a mop or cloth wrung out of the disinfectant. And instead of dusting, all accessible surfaces—as of doors, wainscots, window frames and ledges, tables, chairs, and exposed parts of the bed-frame—should be wiped off at least once a day—door-knobs oftener—with a cloth dampened with the disinfectant.

All dishes and table utensils used in the sick-room must be washed in boiling water or rinsed in a disinfecting fluid before being taken from the room. Boiling water is entirely sufficient and is preferable, on account of the usual disinfecting fluid being highly poisonous and tarnishing silverware.

A sufficient quantity of good disinfectant should be kept in the sick-room in a wooden pail, slop jar or other vessel—*not metal*—and into this all towels, napkins, handkerchiefs, pillow-slips, sheets, etc., and all articles of clothing used in the room, must be dipped and wrung out before removal. They should be taken to the laundry while still wet and there be thoroughly boiled before they dry.

Discharges.

The night vessel should be kept one-third full of a *strong* disinfectant fluid, to be emptied not sooner than half an hour after each use, and then immediately re-supplied with fresh fluid. All discharges should be disinfected in this way before being emptied into water-closets or otherwise disposed of. This is especially important in typhoid fever.

In diphtheria, scarlet fever, membranous croup, measles, or whooping cough—all discharges from the mouth and nose should be received upon pieces of old soft cotton or linen, worn handkerchiefs, etc., and *burned at once*. Do not allow a cuspidor or other spit-vessel to be used in the sick-room, and especially do not allow the patient to spit on the floor. If this should accidentally happen, wash the place immediately with a *strong* disinfectant.

After Recovery.

When the case is ended, soak all sheets, pillow-slips,

towels and other washable articles in the room, in *strong* disinfectant and remove them while wet to the laundry, to be boiled at least thirty minutes. Sprinkle thoroughly all surfaces of pillows and of the mattress with *strong* disinfectant and then carry into the open air, to be exposed to sunshine for at least six hours—frequently turning the articles. Mattresses and pillows should be burned or sterilized by heat if soiled by discharges from the patient.

Wash the floor and all wood-work, first, with a *strong* disinfectant and immediately after with hot water and German green soap—to be had at the drug store. Treat the furniture in the same way. Brush the ceiling and walls thoroughly with the disinfectant and then re-paper or calcimine, after two or three days' exposure by open doors and windows. Do not neglect closets, shelves, ledges, cornices, or other surfaces on which dust may settle.

If the above advice is carefully followed there will be no necessity for fumigating the rooms with sulphur.

The objects of this advice are two-fold: First, to facilitate the recovery of the patient. Second, to prevent other members of the family from contracting the disease.

It is confidently believed that both these ends will be attained wherever these instructions are faithfully carried out.

DISINFECTION.

Articles Useful for the Purpose.

The destruction of the poisonous products of decomposition and disease is termed disinfection. Various methods and agents are employed for the accomplishment of this purpose, and each year new substances are devised and placed upon the market as disinfectants; so there are an almost endless variety to choose from. Many of these are highly poisonous and too dangerous to be employed for household purposes; many others are so expensive that they are on that account excluded from general use. It is not necessary

that a disinfectant should be offensive in order to be effective, though most disinfectants do possess disagreeable qualities. As a rule it is the best plan to use the disinfectant which is least dangerous, provided its powers are sufficiently strong to answer the purpose. The following may be mentioned as within the reach of all:

CHLORINE GAS.—This is one of the most powerful of disinfectants and may be obtained very cheaply. It is a greenish and highly irritating gas given off from chloride of lime and most abundantly so when that article is mixed with an acid. But on account of its irritating properties chlorine cannot be used in rooms where persons are confined. It is best employed to disinfect a room where there has been an infectious disease. For this purpose place at least a pound and a half of chloride of lime in a large vessel and pour upon it three pints of vinegar, taking care not to inhale the gas which is rapidly given off. All doors and windows must be tightly closed and the gas allowed to remain in the room four or five hours. Colored articles of clothing will usually be faded by chlorine, which is an objection. A pound of sulphuric acid in a quart of water (slowly mixed) will be better than vinegar to pour on the chloride of lime, though more dangerous to handle.

CHLORIDE OF LIME.—This familiar article can be obtained in pound and half-pound packages. Its virtue depends upon the chlorine liberated from it. This is given off slowly when the chloride of lime is spread over a plate or surface so as to be acted upon by the carbonic acid gas of the atmosphere. It is a most excellent disinfectant for cellars, vaults and damp and unhealthy places. Care must be taken in using it in the cellar lest too great a quantity of the gas permeate the house and prove irritating to the inmates.

CHLORIDE OF ZINC (Burnett's Solution) is a powerful agent, although dangerous.

CHLORIDE OF IRON is valuable, although too expensive for common use.

CHLORIDE OF ARSENIC and Chloride of Antimony are powerful disinfectants, but they are highly dangerous and should not be used about the house.

CHLORIDE OF SODIUM is the technical name for common salt. It is excellent to prevent putrefaction of animal substances, but is not strong enough for purposes of disinfection.

CARBOLIC ACID.—This is an offensive smelling chemical extensively used for disinfection, nearly altogether in the form of solution. It is a very mild disinfectant, and is not to be compared with the powers of sulphur gas and chlorine. Its powerful odor will overcome other disagreeable odors and be serviceable in that way. It is a dangerous article and many deaths have accidentally occurred from its being employed. It will corrode the skin with which it may come in contact.

CREOSOTE very much resembles carbolic acid and is of more value in arresting putrefaction than in disinfection. Very weak solutions are used.

COPPERAS.—This is also known as green vitriol or sulphate of iron. Its solution, two pounds to a gallon of water, is a most valuable and powerful disinfectant to pour into offensive drains, vaults, etc. A jug of this solution kept in the sick room is excellent to use on offensive discharges of all kinds. It is very cheap and should be freely used in drains and vaults. It easily stains clothing and vessels and for that reason is often objectionable about the house. It has no odor.

CHARCOAL.—This article has the power of absorbing gases, and may be used to great advantage. A sieve filled with broken charcoal and placed over an open sewer trap will render it inoffensive. Finely divided charcoal scattered around a cellar will remove offensive gases. Its useful properties in water filters are well known.

CORROSIVE SUBLIMATE (Bi-chloride of Mercury) is a most powerful disinfectant, but it is so highly poison-

ous that it should not be kept about the household. Its solution (1 part in 2,000 of water) is extensively used as an antiseptic in surgery.

PLATT'S CHLORIDES and BROMO-CHLORALUM are disinfectant preparations extensively advertised. They are most excellent, especially about the sick room; and although comparatively expensive are preferable to cheaper articles on account of their being almost non-poisonous and very convenient, being colorless solutions which do not stain and which possess no odor.

LISTERINE sprayed about a sick room makes an agreeable odor in the atmosphere and is mildly disinfectant.

SULPHUROUS GAS.—There is probably no better disinfectant than the gas caused by burning sulphur. It is suffocating and therefore cannot be used where the atmosphere must be breathed. But as a disinfectant for rooms just occupied by persons suffering from contagious or infectious diseases it cannot be excelled. It is best used in the form of "Sulphur Candles," which are readily obtained at drug stores. Two one-pound candles burned in a closed room and the gas kept in for three or four hours will disinfect a room containing the worst form of small pox or diphtheria poison. When the sulphur candles cannot be procured, ordinary powdered sulphur may be thrown upon burning coals or placed in a vessel over a stove or alcohol lamp. Sulphur and chlorine cannot be used together, as they form a compound.

SULPHATE OF ZINC.—This is also known as white vitriol. It is the most valuable of all disinfectants for disinfection of clothing. Clothes worn by persons suffering from contagious or infectious diseases, as well as their bed clothing should be soaked for at least forty-eight hours in water containing sulphate of zinc.

SULPHITE OF SODA.—This is too mild to use as a general disinfectant, but it serves a useful purpose in

preventing putrefaction in discharges and other substances.

SULPHO-NAPHTHOL.—This preparation is cheap and very efficient and possesses a not disagreeable odor. It is excellent when placed in water used for washing walls and floors. It is comparatively harmless and may be used with safety. There is no reason why this should not become a most popular article, for it possesses strength and agreeableness and is inexpensive.

THYMOL is a most pleasant though rather expensive disinfectant for the sick room. Put one drachm in four ounces of alcohol and when dissolved add a gallon of water. Sprinkled freely over the floor and about the bed it will be found agreeable and effectual.

COFFEE.—Ordinary coffee, browned and ground, is a most excellent disinfectant and one which is obtainable quickly in nearly every house. Of course its powers are not great when compared with many of the pronounced disinfectants, but for ordinary purposes it is excellent. It is used by simply sprinkling some of the ground coffee upon a hot stove or upon a red-hot shovel. The odor is not disagreeable and for that reason it can be used in the sick room, especially to overcome the odor of offensive discharges.

SUGAR.—With many the burning of sugar answers the purpose of disinfection in mild cases. It is cheap and convenient, but cannot be relied upon in contagious diseases, although it may be used advantageously to overcome disagreeable odors.

RULES FOR PROPER LIVING.

Breathing.

I. *Breathe pure air.*

There is nothing more abundant than air; it is the requisite environment of mankind. It enters the lungs, carrying with it the principle of life; it enters the pores of the skin, and is indispensable to existence. When it is laden with impurities these are carried into

the system and deposited to produce disease or to prevent the natural performance of functions.

II. *Eat pure food.*

Tissues are builded and life sustained by the food taken into the body. Impure foods produce disease and choke up the system. Avoid adulterated foods as you would poison. These adulterated foods are everywhere upon the market. Take nothing on faith, but first be satisfied it is pure. He who sells you adulterated food is destroying your body for his personal gain. You must not permit it.

III. *Eat properly.*

It is not enough to choose pure food; it must be eaten as Nature intended it should. Use the teeth to grind it well; mix the saliva with it thoroughly and do not destroy its value by mixing it with improper substances. Choose a properly diversified diet.

IV. *Drink pure water.*

Remember that water laden with lime or various other mineral substances cannot act as the solvent of bodily impurities which drinking water should be. Cold distilled water is best. If it cannot be obtained, use boiled and filtered water. Use plenty of water; it will permeate every part of the body, and by its solvent properties, dissolve and carry away the earthy impurities which are the cause of much disease and of premature old age and early death. Avoid wines and alcoholic liquors. Drink no tea or coffee—they are abominations that few can use without injury. Their use is a habit and never a necessity.

V. *Keep the body clean.*

It is indispensable that the whole body should be kept clean, so that the functions of the skin may be properly performed and effete material carried off through this medium.

VI. *Exercise properly.*

Activity within reasonable limits is necessary for proper development, perfect living and old age. Never strain the muscles, but let every one of them be used sufficiently to insure their healthy condition.

VII. *Be cheerful.*

Worry wears worse than work, and a morose disposition is fatal to health. Laugh and grow fat, and look upon the bright side of everything at all times.

VIII. *Let no poison enter the body.*

Every poison, whether taken from habit or as a medicine is stamped as a destroyer of health and life. Division of the dose will not alter its inherent destructive properties. Nature has supplied an abundance of harmless means for overcoming disease.

IX. *Have no evil habits.*

The use of wines and alcoholic liquors and of tobacco and other narcotics are habits which tend to destroy health. Then there are many other habits which tend to degrade the mind and body. All must be abandoned, for perfect self control is a most important factor for health.

X. *Take appropriate rest.*

The body must have seasons of perfect rest for repair and recuperation. Such seasons of rest should be regularly allowed. Sleep is tired nature's sweet restorer and cannot be dispensed with. Do not carry your cares and anxieties to bed. Acquire the power of going to sleep almost as soon as the head touches the pillow.

XI. *Avoid strife and passion.*

Anger is an all-consuming fire which weakens the seat of mental activity and saps the strength from the body. Swear not at all, and live peaceably with all mankind.

DISEASE AND MEDICATION.

General Characteristics and Classification.

Proper living, hygienic surroundings, good habits, pure food and water, cleanliness, temperance in all things, exercise, fresh air, a good conscience and contented mind, sociability and the enjoyment within bounds of natural pleasures, together with the avoidance of anger, grief and strains of all kinds will in-

sure long life, health and happiness without the use of drugs. And even, when through the impossibility of avoiding disease on account of forced circumstances, it actually endangers life, will-power and hygienic methods, directed by a proper knowledge of the character of the disorder, will often be all sufficient to aid Nature in her efforts to restore the normal condition of affairs within the organism. But, unfortunately, very few have attained that knowledge and degree of control over the will to enable them to exercise it for the eradication of disease; and other methods must be resorted to in order to bring about the desired effect.

The employment of any agency which will aid Nature in her restorative efforts during disease is termed Medication. By many it is believed that in every habitable locality may be found remedies sufficient to overcome the diseases peculiar to that locality. It is a pity that this belief is not universal; for the multiplicity of so-called remedies increases every year; and not content with using roots and herbs and barks and minerals of all kinds from every locality of the globe, druggists and chemists and physicians are constantly concocting new agents in the laboratory to swell the list and add to the confusion of the practice of medicine. And so poisonous and dangerous are many of the agents employed in modern practice that their use by the laity becomes an impossibility, and their use by the profession should be prohibited by general public opinion.

But were it not for the mystery surrounding the use of death-producing substances in disease, the medical profession would soon cease to hold over the people the power they now assume. And it is a question whether we should consider the continued use of violent poisons by the medical profession as due to their ignorance or to their adherence through reverence to the so-called mysteries of the dark ages. In all instances where disease disappears and normal conditions return Nature accomplishes the work by well established laws—laws which as yet are not fully understood, but of which enough is known to enable us to render aid.

DISEASES AND TREATMENT.

ABDOMEN IN DISEASE.

Tenderness. Local and General Enlargement.

The abdomen is the portion of the body between the chest and pelvis, and encloses the large cavity containing the digestive and urinary organs and a portion of the generative organs. It is evident that many conditions of the organs mentioned will produce noticeable abdominal symptoms, and the observation of these and of their particular localities and characteristics will often lead to the recognition of the seat and nature of diseased conditions.

Tenderness usually denotes inflammation. If the tenderness is superficial the muscular structures only are involved; but if it is deep seated and increased by continued pressure the internal organs are affected.

Local enlargement of the abdomen is very frequent. If it is in the upper and center portion, the stomach is usually affected. If it is upon the right side, the liver is involved. If it is upon the left side splenic trouble should be suspected. If it is toward the groins, ovarian troubles or appendicitis or obstructions of the bowels may be the cause. If it is low down, the bladder or the womb may be the source of trouble.

General enlargement of the abdomen may be due to inflammations of the bowels or womb or peritoneum (peritonitis). Dropsy may also give general enlargement; but in that case a doughy feeling and fluctuation may be readily recognized. Pregnancy will, of

course, enlarge the abdomen, and in the cases of women, must always be borne in mind when no other cause of the enlargement is manifest.

Many acute diseases are at times accompanied by abdominal enlargements, and such enlargements are usually of serious import. They not infrequently occur in typhus and typhoid fever. But it must be remembered that abdominal enlargement does not always signify serious difficulties; for instance, it usually accompanies ordinary colic, from the intestines being distended with gas.

Treatment.—It is evident that no general treatment can be given for the removal of abdominal symptoms, as they may be the result of a variety of causes which must be removed according to the treatment given for the diseases of the special organs affected. But, as a rule, tenderness and pain in the abdomen, accompanied by enlargement may be relieved by the outward application of stimulating liniments or washes, or the laying on of flannel cloths wrung out of hot water, or the application of mustard or capsicum plasters. Such relief would, of course, be but temporary when deep seated organs are involved. To resort to the use of hypodermic injections or other methods of using opiates, would be more detrimental than beneficial.

Abdominal Dropsy.—This condition is technically known as Ascites. It is usually dependent upon diseases of the liver or portal vein, or of the kidney or the peritoneal membranes of the abdomen. In all cases the accumulation of fluid is the direct result of pressure upon the veins. For descriptions of symptoms and treatment, see article on Dropsy.

ABDOMINAL INJURIES.

Bruises, Contusions, Incisions, Lacerations.

The abdomen is liable to be injured in various ways; and if extensive injuries are neglected or improperly treated fatal results may follow. Falls and blows

upon the abdomen may cause but slight external indications while they may severely injure internal organs. Deep seated pain, especially of a dull character, increased by pressure, and following an injury to the abdomen, would point to internal difficulty. When pain becomes intense and of a throbbing nature, preceded by chills and some fever, several days after the injury, internal abscess should be suspected.

Incised wounds and lacerations are extremely liable to produce peritonitis, which is fully described under the article on Peritonitis. In all such cases the greatest precautions for quietude and cleanliness should be taken, and the case placed in the hands of a skilful surgeon at once.

Bruises and contusions require immediate applications of cold compresses; but if these have been neglected in the start hot compresses are best along with applications of stimulating liniment.

Abortion.—This accident not infrequently happens during the course of acute or chronic diseases. It is especially liable to occur during small-pox, relapsing fever, bilious-remittent fever, syphilis, St. Vitus dance and infectuous diseases. Its proper treatment is given in the article on Abortion in the section on Diseases of Women.

ABSCESS.

Acute and Chronic, Superficial and Deep-Seated.

An abscess is an accumulation of pus at some particular spot, the pus being formed by the degeneration of tissue the result of congestion. Abscess may be caused by obstructions to the circulation, injury, irritation from foreign bodies or the absorption of poison, as in dissection work.

Acute Abscess.

Symptoms.—The formation of an abscess is preceded by pain, inflammation, redness, heat and swelling and in deep-seated abscess there may be general fever—the temperature perhaps reaching 104°. The swelling,

hard at first, gradually softens before destruction commences. The brighter the redness the smaller will be the abscess, and the softer the feeling and the darker the appearance the more extensive will be the destruction of tissue. When pus begins to form there is usually a pronounced chill and a local throbbing, with increasing and constant pain. The pus always endeavors to get to the surface, causing elevation and a point to be raised which eventually ulcerates and bursts, allowing the pus to be naturally discharged. The deeper seated the abscess the longer will it be in "coming to a head," and the more liable is the pus to become poisonous. Thick yellow pus is termed "healthy," and after it is discharged healing is usually rapid. Thin, greenish or watery pus is always bad, indicating prostration and difficulty in after healing.

Treatment.—If there is much fever, sweating should be induced by the use of diffusive drinks, such as ginger and sage or pleurisy root tea. In large abscess where the surface is dark, composition (see formulas) should be used freely. Poultices of ground flax seed, sprinkled over with lobelia and golden seal will hasten pus toward the surface. After an abscess is opened dressing of poultices are usually sufficient. Keep the wound open by gentle pressure occasionally, and if there is a tendency to degeneration, shown by a dark look of the part, compound tincture of myrrh should be used freely around the opening, and when the pus is poisonous, the tincture diluted can be injected into the wound by a small syringe. Deep seated or extensive abscesses should be opened with a thin and sharp pointed surgical knife as soon as pus forms, taking great care to avoid injuring blood vessels and important structures.

Chronic Abscess.

When the system is in an unhealthy condition during an ordinary abscess, a chronic abscess may result. Scrofulous persons are liable to be such sufferers. Decay of a bone, or of a small particle of bone broken off by fracture may likewise cause chronic abscess. The duration of such a trouble is very protracted, possibly continuing for years. When caused by bone decay

there is usually considerable pain, and when there is an involvement of the nerve, spasms are liable to occur. Chronic abscesses may burrow into important structures and cause death, or decomposition of pus may cause fatal trouble, preceded by hectic fever, septicæmia, etc.

Treatment.—Ascertain the cause and remove it if possible. Pieces of decayed bone should be extracted. If there is a tendency to septicæmia, composition should be used freely, and the compound tincture of myrrh externally and internally. Do not open such abscesses prematurely. Let the diet be plain but nourishing, and keep the bowels open and the habits regular and temperate.

Abscesses in Special Localities.

An abscess may form in any organ as a result of injury or disease or obstructions to free circulation. The brain, stomach, liver, kidneys, spleen, bowels and lungs are especially liable to abscesses, and descriptions of these difficulties and their treatment are given in the articles upon diseases of those organs. Fæcal abscess is mentioned under Appendicitis, and strumous abscess in the article on Scrofula.

Acid Poisoning.—See article on Poisons.

Acholia.—This signifies a deficiency of bile, resulting from disease of the liver and causing constipation and other symptoms mentioned in the article on Diseases of the Liver.

ACNE.

Blackheads, Pimples, Flesh Worms, Whiskey Nose.

There are several forms of skin disease included under the general name of Acne. They are never fatal, but are very annoying, and cause the afflicted person to present an unsightly appearance. The difficulty is also very persistent, often baffling every endeavor to overcome it.

Acne Punctata is caused by a retention in the skin of the secretion of the sebaceous glands. This secretion chokes up the little ducts and becomes hardened. These ducts are situated alongside of the hair follicles. The tips of the little masses of hardened secretion become black when exposed to the air, giving rise to the ordinary name of *black heads* or flesh worms. Some suppose these are actual worms in the skin, and they do look very much like them, for by pressure the ducts may be emptied of their contents, which look like yellowish worms with black heads. This form of acne is most common between the ages of fourteen and twenty-five, and usually makes its appearance over the face, and sometimes on the chest and back. Sometimes the retained secretion is deeper seated where air and dirt cannot reach it, and it remains white.

Treatment.—Permanent relief can not be obtained until the system is regulated. Over eating and improper diet are often causes. Eating fats or cheese or rich foods usually aggravate the trouble. Compound Syrup of Stillingia is an excellent internal remedy. Locally much may often be accomplished. Unskillful squeezing out of the “worms,” is more detrimental than beneficial on account of increasing the inflammation present. First apply over the affected part a cloth wrung out of very hot water, let it remain a few minutes to relax the structures, then gently squeeze out the accumulations, taking care not to abrade the skin by pins or finger nails, then apply cloths wet with cold water and extract of witch hazel in which borax has been dissolved.

Acne Rosacea, often spoken of as “whiskey nose,” is a condition of enlargement and redness almost invariably at the tip of the nose, often causing the skin to look mottled by the dark blood in the minute venous capillaries of the parts. Indulgence in alcoholic liquors is the usual cause, though derangements through the system of special organs, such as the kidneys, liver and womb, may be indicated by its appearance. From whatever cause, this unsightly appearance of the nose is very annoying.

Treatment.—If from alcoholic drinking, it is an indication that should at once force the drinker to abandon his habit; for acne rosacea always indicates that damage is being done some organ or organs of the body. When caused by diseases of the kidneys, liver or other organic difficulty, the seat of the derangement must be found and attended to as mentioned under general diseases. Often this condition lasts for life despite all treatment, and occasionally it is seemingly inherited. Locally, but little can be accomplished. An ointment of sulphur and a very little boracic acid rubbed up in vaseline could be applied.

Acne Vulgaris very much resembles *punctata* and appears at the same places, but is a more aggravating difficulty. The retained secretions cause inflammation of a high degree, and as a result there is hardening of the parts or *nodules* formed in the skin, or else suppuration or *pustules*. Bad habits may cause acne vulgaris, but not always. Persons of scrofulous tendencies are most prone to be affected. The disease rarely exists or continues after the twenty-fifth year.

Treatment.—Constitutional treatment, as the use of Compound Syrup of Stillingia, is good. Locally use the treatment for *acne punctata*, but if the pustules are profuse or the tissues hardened and swollen, as is usually the case, a thin lancet should be plunged into the seat of each induration and then a rubber “cup” applied to draw out the pus and congested blood. This is a most effectual method and should be persisted in until relief is obtained.

Acne Sycosis is a form of acne attacking the hairy portions of the skin. Little tubercles or pustules are formed by suppuration of the hair follicles, and the exudated pus, drying in masses, forms scabs in which the hair becomes matted. Acne sycosis usually occurs on the chin in the follicles of the beard, from which it gets its name of “Barbers’ Itch.” It often follows eczema. After the scabs come off scars are left, upon which hair does not again grow, causing an unsightly appearance. By some this is regarded as a parasitic disease. It is contagious, and razors,

combs, towels, etc., used by sufferers from it should be carefully kept from others. This disease of itself is never fatal, though erysipelas may follow.

Treatment.—It must be treated about the same as acne punctata, though more energetically. The hairs about the roots of which pustules are formed should be drawn out early, and the pustules themselves pricked as soon as they “come to a head.” Persons afflicted with barber’s itch should keep well shaven and very cleanly. Borax and ammonia dissolved in water can be used freely to advantage. The following ointment is of great benefit: Take sublimed sulphur, 40 grains; starch, 1 drachm, and mix thoroughly, then add to it glycerine, 1 fluid ounce; borax, 20 grains, previously heated together; rub all these to the consistence of ointment with vaseline. Occasionally persons afflicted with acne sycosis bear the appearance at first glance of those afflicted with smallpox or with syphilis. But it may be always readily known because it attacks only hairy parts. Persons who never shave may have the disease, and women may have the difficulty make its appearance among the hairs of the temples.

Aconite Poisoning.—See Poisons.

Acrodynia.—*Painful Joints.*—Acrodynia is a name given to a peculiarly painful disease affecting the joints, causing swelling of the wrists and ankles, accompanied by an eruption and fever. It is mentioned by several authors as identical with breakbone fever or dengue, which is described elsewhere.

ACROMEGALY.

Enlargement of Bones.

This is an unusual disease, in which the prominences upon the bony structures of the body become enlarged to an enormous extent. The growth may be rapid or extend over several years. The lower jaw and the feet and hands are chiefly affected, though any bony prominence may be involved. The nose and ears may

at the same time greatly increase in size. The skin and muscles of the body remain unchanged, which causes the morbid growths to appear hideous. The sufferer grows distressed and his mind weakens. He usually leans his enlarged head forward, presenting an ungainly sight as it is carried between his enormous shoulders. Nothing is known regarding the cause of the trouble, and no method of alleviation has yet been devised. The patient may live for years, though he is an easy prey to fatal disease; if not, exhaustion eventually causes death.

ACTINOMYCOSIS.

Disease from Vegetable Fungus.

This disease belongs properly to animals, and is caused by a fungus growth being established in the tissues and causing irritation and suppuration. Man cannot easily catch the disease directly from animals, the fungus requiring nourishment from vegetable fibre before it is dangerous to human beings; for that reason persons much about horses or cattle may become afflicted by the habit of eating bits of straws or hay taken from the manger. The fungus is made up of masses of very small particles, and altogether looks like a minute yellow chrysanthemum. The spores may get into the stomach or intestines or the lungs and cause fatal abscesses. Usually they are confined to the tissues beneath the jaw. Abscesses formed have a tendency to open outward. If they can be evacuated and the sacs thoroughly cleansed, recovery will follow; but if they are too deeply internal to be accessible the case is hopeless. Treatment consists of outward applications of compound tincture of myrrh, and the free internal use of composition infusion.

ADDISON'S DISEASE.

Bronzed Skin. Degeneration of Renal Capsule.

By many this is known as *bronzed skin*. It is a disease of the capsules over the kidneys—they undergo

cheesy degeneration and themselves become dark, enlarged and hardened. The cause of the disease is not definitely known, but it is often present during cancer or tuberculosis.

Symptoms.—Great prostration and a bronzed olive-green hue to the skin are the prominent characteristics. The whites of the eyes assume a pearly look. The hands and feet become spotted, and dark spots may be seen about the mouth and on the lips. The heart beat is usually very feeble, especially in protracted cases. There is dyspepsia and pain over the stomach and in the back. Obstinate diarrhœa and vomiting may be present. Epilepsy or dementia may occur before death.

Treatment.—As far as known this disease is always fatal. Symptoms point to methods that might be resorted to for relief of diarrhœa, dyspepsia, etc. Hygienic surroundings, nourishing food, frequent baths and the use of tonics may prolong life, but recovery cannot be hoped for.

Adenitis.—See article on Gland Fever.

Adenoma.—*Small Tumors.*—These are morbid growths developed from tissues of glands; they are usually common around the throat and are about the size of a bean or pea. They are of no importance. The same character of growth may be found elsewhere involving glands that are important. See poly-pus, bronchocele, cysts, tumors.

AGOROPHOBIA.

Abnormal Fear of Strangers.

This is a species of nerve exhaustion, or rather a series of symptoms designating an ill-defined weakness of the brain or spinal cord, or of nerve-ganglia. The person afflicted fears to walk the streets or fields alone or to mingle in a crowd of strangers, or to travel where unacquainted. Such feelings are uncontrollable and agonizing; they may accompany other diseases, or they may be experienced by persons in

apparently good health and for that reason call forth ridicule. But it should be remembered that the feelings are the result of nervous disturbance at some point.

Treatment.—Persons cannot be forced to overcome these feelings, and children especially should be treated with great kindness. The mind must be turned upon other thoughts and tact used in accustoming the person to situations dreaded. Diet should be nourishing; milk and eggs are good. Exercise should be regular in the open air, and an interest awakened that will turn the thoughts to subjects other than self.

Agraphia.—*Inability to Write.*—A condition following certain injuries of the brain by which the person afflicted loses the power of conveying his thoughts in writing. He may even be unable to form a single letter of the alphabet and still realize his inability.

AGUE.

Intermittent Fever. Chills and Fever.

Malaria (bad air) is responsible for the great number of cases of ague. The precise nature of the specific poison which causes ague is not fully known; but it is generally believed to be a vegetable spore, the breathing of which into the lungs causes the poison to enter the circulation and produce disease—the nervous system, the liver and the spleen suffering most. Under the title of Malaria more will be found concerning this specific poison.

Ague proper, or intermittent fever, is a disease which, during its course, manifests itself in paroxysms which occur at regular intervals. The disease is most common in the fall, though when once the poison saturates the system ague may manifest itself at other times.

Symptoms.—Before a paroxysm of ague commences there are usually signs to warn of its approach. These are: A general feeling of lassitude, constipation, loss of appetite and perhaps nausea or sensitiveness of the stomach, a dull headache and dull aching

pains in the lower part of the back and possibly in the joints, and a yellow colored fur on the tongue. These symptoms may last several hours or perhaps several days, and be followed by the paroxysm characteristic of the disease, which may be described as follows:

(1.) *Cold Stage*.—A creeping feeling along the back, increasing to decided chilliness, which no amount of heat or clothing overcomes, finally ending in a shivering chill, the teeth chattering, the hands and feet like ice, and the lips and finger tips blue, the face pinched and the whole skin seeming to be shrivelled. Great thirst and headache are present and sometimes nausea and vomiting. Breathing becomes difficult, and the pulse small and rapid and sometimes irregular. Altogether the condition seems to the patient a most deathly one. Its duration varies greatly from ten minutes to four or five hours, when gradually (sometimes suddenly) reaction commences.

(2.) *Hot or Fever Stage*.—Usually this starts in with alternate flushing and coldness over various parts of the body, soon developing into intense general fever. The face becomes red and hot and the lips dry and parched; thirst is intense and headache is violent, often causing delirium or convulsions in children; the urine is scanty and the pulse full and strong, the arteries of the neck seeming about to burst. This condition of high fever may last from two to eighteen hours, usually four or six hours.

(3.) *Sweating Stage*.—Gradually the skin becomes moist, and, commencing on the forehead, a warm perspiration breaks out and extends over the whole body, becoming very profuse and occasionally possessing a peculiar odor; the urine is passed freely and often has a reddish sediment; all the symptoms of fever subside and the patient usually falls asleep to awaken feeling comparatively well and with a good appetite. With the exception of a general feeling of weakness an *intermission* (varying in duration in different forms of *ague*) is enjoyed without any indications of disease.

The length of the intermission designates the class of the paroxysm. (1.) *Quotidian* *ague* gives a paroxysm every twenty-four hours. (2.) *Tertian*, every

forty-eight hours, or every other day (the most common form). (3.) *Quartan*, every seventy-two hours, or every third day. (4.) *Irregular* ague, in which the paroxysms seem to have no definite time of attack.

Treatment.—Ague and quinine or other salts of Peruvian bark are usually associated in the minds of most people. In households where ague prevails the bottle of quinine will usually be found on the pantry shelf, and sole reliance is placed in from five to thirty grains daily, in small doses, during a “spell of ague.” There is no question but that quinine or its equivalent form of Peruvian bark will aid in treatment of ague; but many can not take it, and there are better methods to be adopted. During a first paroxysm little can be done. Always during the cold stage rest and warmth should be provided, and, if the surface is very blue, composition should be given. During the hot stage, hot lemonade with ginger essence or infusion of pleurisy root will hasten the sweating stage of relief. Commencing as soon as the fever is gone tonics should be given in anticipation of another attack. The following will be found a prescription far superior to any salt of Peruvian bark.

Take Fluid Ext. Gentian *four drachms.*
 “ “ *Goldenseal* *four drachms.*
 “ “ *Cascara* *two drachms.*
 Salicin *twenty grains.*
 Comp. Tinct. Myrrh *one drachm.*
 Simple Syrup *eight ounces.*

Mix. Take one teaspoonful every three hours during the intermission, and every hour in the day of the paroxysms before the chill commences.

This is bitter, but can be relied upon. Complications may occur during ague, but they must be appropriately treated. Nourishing diet, fresh air and frequent baths should be provided. Removal from a malarial region is of course desirable. Under all circumstances keep the bowels from constipation.

Dumb Ague.—Occasionally a form of ague is met with where the chill or cold stage is not especially

marked and the other stages perhaps but feebly manifested. Great depression and dull aching being pronounced in regular paroxysms. Such forms of the trouble require the same treatment as the regular forms.

Ague Cake.—Very often the spleen becomes enormously enlarged in those persons subject to ague, due to the crowding of blood upon the organs, driven inward by the repeated chills and consequent contractions of the surface. In nearly every sufferer from ague the spleen will be found hardened and the liver enlarged.

Anemia following Ague.—Improper condition of the blood and excessive proportion of white corpuscles may follow ague; giving a pronounced and continued paleness to the countenance. Persons afflicted with ague and coming from a warm to a cold climate, perhaps to escape malaria, are very liable upon exposure to be attacked with pneumonia of a serious nature and often rapidly fatal. Such persons cannot be too cautious in guarding against such a difficulty.

ALBINO.

Albinoism. Albinismus.

This is a condition where the coloring material is absent from the various tissues of the body, such as the skin, iris, middle coat of the eye and the hair.

Symptoms.—Partial Albinoism presents a mottled appearance of the skin and is most frequently met among negroes. Persons suffering from general albinism are termed albinos, and may be of any race. Their skin will be found very delicate and sensitive and of a peculiar lead white; the iris is pink, and there being no black coating within the eyes the pupil will appear red. The hair is very fine and a pure white or delicate straw color. All these appearances manifest themselves at birth.

Treatment.—So far it has been found impossible to devise any beneficial treatment for albinoism. Its

sufferers are regarded as freaks of nature, but that does not imply that they are mentally different from others; only their extreme physical sensibility is apt to prove very annoying to them. They are very sensitive to heat and cold, and are far more liable than others to suffer from disease. For these reasons parents should take exceptional precautions in guarding albinos and in regulating their diet and clothing.

Albuminuria.—*Albumen in the Urine.*—See Bright's Disease.

ALCOHOLISM.

Acute. Chronic. Inebriety. Delirium Tremens.

The introduction of alcohol into the system always produces unnatural conditions; moderate quantities may cause no immediate appreciable symptoms because vitality may be able to overcome the effects, but in every instance vitality is weakened by the use of alcohol, and sooner or later must succumb in the effort to overcome the effects of the poison. When alcohol enters the circulation it is conveyed to every tissue, doing damage everywhere. It first irritates the nerves, which become depressed; it interferes with the proper oxydation of the blood, prevents normal tissue changes and interferes with nutrition.

Acute Alcoholism.—Persons unused to drinking alcoholic liquors, or those who consider themselves "moderate drinkers," are subject to acute alcoholism, which is commonly known as intoxication. It often presents characteristics of disease which are intense and often dangerous.

Symptoms.—After a period of excitement, drowsiness occurs, more or less profound, and with persons accustomed to drinking recovery soon follows. But with others drowsiness may run into stupor, the extremities become icy cold, breathing is slow and stertorous, and the heart action weak and irregular, the face livid and the lips blue.

Treatment.—An emetic of mustard in warm salt water should be given, or the stomach pump used; then follow by strong coffee, arouse the patient by walking him about, slapping him, or by the application of electricity. Dashing cold water on the head is useful. Follow by small doses of third preparation of lobelia (see formulas), three drops in water; allow quiet after recovery.

Chronic Alcoholism.—Persons who have long been accustomed to the use of alcoholic liquors suffer from this disease in one form or another. All the organs of the body, chiefly the stomach and liver, being affected. Symptoms may be summed up as follows:

The *stomach* is inflamed (gastritis), there is indigestion, disgust for food, nausea and thirst; retching and vomiting in the morning of stringy mucus, often containing blood or shreds of membrane. Ulceration of the stomach is common. Inflammation in the mouth, throat and pharynx is always present.

The *bowels* are inflamed and irregular. Stools are very offensive and often contain blood.

The *liver* becomes altered in character; the bile may enter the circulation or the organ may become enlarged and undergo fatty degeneration.

The substance of the *kidneys* becomes inflamed or profoundly congested.

The *heart* becomes weakened and the blood vessels degenerate; hemorrhages in the brain may occur, causing paralysis. The nerves are shattered and will power is lost. Trembling of the limbs and mental disturbances follow. Cowardice, treachery and untruthfulness take possession of the mind and the victim is a physical and mental wreck.

The outward appearances are familiar to all—bloating, redness of the face and congested veins over the nose and cheeks.

Treatment.—Various combinations of poisonous drugs have been employed to overcome the desire for drink; such as strychnine, atropine, daturine, chloride of gold, etc. These destroy the nervous system and only add to the deplorable condition. The only hope seems to be to confine the victim in some retreat, and there to

endeavor gradually to overcome the various disordered conditions of the liver, stomach, bowels, kidneys, etc., and sustain the strength by tonics and most nourishing food.

Delirium Tremens.—This usually occurs after a prolonged spell of drinking in persons already suffering from chronic alcoholism; sometimes it occurs with persons not in the habit of drinking, but who have taken perhaps their first large drink; and again, persons long accustomed to drink and who have been deprived of it may have an attack.

Symptoms.—Premonitory symptoms are usually manifested—sleeplessness, weakness, trembling, fear, bad taste in the mouth, constipation, and bad breath. The attack itself is accompanied by horrible delusions—usually most violent fear of reptiles, devils or other objects about to destroy the victim, who endeavors to escape them. The eyes stare, the body is covered with cold perspiration, the pulse is small and frequent, and violent trembling occurs. These symptoms may last several hours, and be followed by great physical and mental exhaustion.

Treatment.—Perfect quiet must be secured in a room well guarded, for the patient is liable to jump from the window or otherwise endeavor to escape imaginary enemies. For that reason a strong nurse should be present. Arguments are useless, strength alone can conquer. Often it is well to coincide with his ideas and bar the doors and windows and thus encourage the belief that the enemies are without, and he is safe within. Administer a strong infusion of scull-cap and cramp bark in tablespoonful doses every hour, or by injection every two hours. For the injection half an ounce of each in a pint of starch water is not too much. Give most nourishing food—broths, raw eggs, milk, etc., highly seasoned. Give no narcotic, and above all do not administer liquor to “gradually wean him.” Sleep is to be desired, but never by narcotics. The following will be found most excellent to administer in a capsule every three hours for the general exhaustion and heart weakness following delirium tremens: Sulphate of hydrastia, cap-

sicum and salicin, each one grain. Weeks may possibly be required for complete recovery from an attack of delirium tremens.

Alexia.—*Inability to Read.*—The loss of all power to read—written words conveying no idea to the patient. The result of lesion in the brain. See Myelitis.

Allocheiria.—*Imperfect Sense of Touch.*—This is a rare and peculiar nervous phenomenon in which impressions, such as handling or applications of heat, made upon one side of the body are recognized as though they were made upon the other side. It is caused by *sclerosis* of the spinal cord or cerebellum, and the treatment for myelitis (chronic inflammation of the spinal cord) is proper to be pursued.

Alopecia.—See Hair Diseases.

Alveolar Cancer.—This disease is fully described in the article on Cancer.

Amaurosis.—See section of Eye Diseases.

Amenorrhoea.—See section of Diseases of Women.

Amimia.—This is the loss of all ability to convey thoughts by the employment of gestures and may follow certain injuries or lesions in the brain, the relief of which can alone overcome this peculiar loss of power.

Amyloid Disease.—Frequently after prolonged suppuration, internal organs undergo a form of degeneration known as amyloid or lardaceous or waxy, which is liable to occur in phthisis, syphilis and diseases of the kidneys, liver and spleen. It is more fully mentioned in the articles treating of those diseases.

ANAEMIA.

Thin Blood. Chlorosis. Green Sickness.

From a great many causes the blood may become impoverished or be altered in character to such an extent as to prevent the proper sustenance of tissues and thus permit degenerate changes to take place. Sometimes the general amount of blood is less than it should be, and again there is a deficiency of albumen in the liquor sanguinis. As a rule the term anæmia is used to designate a deficiency of the red blood corpuscles.

The causes of anæmia are numerous; improper diet; too great an amount of starchy foods and too little meats being eaten; deficiency of food; poor surroundings; too little sunlight; impure air; over study or too great mental exertion with insufficient bodily exercise; too rapid growth; excessive discharges, as in profuse menstruation or chronic abscesses, etc.; all these may bring about anæmia. But there is often anæmia with certain chronic diseases, such as cancer, scrofula, consumption, syphilis, Bright's disease, bleeding piles, etc.; also it may arise from impoverishment of the blood by the use of mercury, arsenic, antimony and other poisons. Men are not as liable to it as women. Girls just after puberty are peculiarly apt to manifest anæmia.

Symptoms.—Paleness of the face is always present, and general muscular weakness and a loss of energy are complained of, with exhaustion after slight exertion. Cold extremities, fainting, dizziness and palpitation are frequent, the pulse growing weaker and more easily varying as the condition advances. Constipation and headache are almost invariable symptoms. Girls are apt to have a waxy and greenish appearance of the face with the skin extremely soft and loose and the whites of the eyes looking pearly. In long continued cases dropsy may follow and functional derangements of various organs may become manifest; exhaustive diarrhœa may set in, and the peculiarities of appetite may become so great, or the stomach so sensitive that it may be impossible to take sufficient nourishment. Bleeding from the nose is common; and

menstruation is interfered with, irregular and deficient in quantity and painful. It is possible for death to occur during a prolonged faint which may happen in severe cases of anæmia.

Treatment.—Rest from compulsory labors, such as business and study, must be obtained. An abundance of fresh air and moderate outdoor exercise should be provided. Going to the sea shore or up in the mountains is beneficial. Sunshine must be admitted freely to the house and must be courted outside. Salt water baths with friction are of advantage. Nourishing food must be supplied—broths, lean meats, game, egg-nog (without alcoholic liquor) and other simple foods should be taken frequently. Care and hygienic measures can be almost entirely depended upon. Medicines may aid. The bowels should be kept open by mild but laxative liver pills. Iron is often praised as a maker of red blood corpuscles, but its reputation is not well founded. Tartrate of iron and potassa two grains and sulphate of hydrastia one grain, put together in a capsule and taken one hour after each meal, will aid intestinal digestion and thus nourishment will enter into the blood. The Compound Syrup of Mitchell (see formulas) often serves as a good tonic. Of course, if anæmia is the result of cancer, consumption, etc., no medication will avail. Often it is a result, as mentioned, of other troubles which may be overcome, and then the blood with proper care will return to its normal condition.

Anaemia of the Brain.—See Brain Diseases.

ANAESTHESIA.

Analgesia. Loss of Sensation.

This is a loss of sensation caused by disease of the nerves of sensation, and may therefore occur in any part of the body. Most commonly anæsthesia of the skin is met with—one half the surface, laterally, may be involved, or the upper or lower part of the body may be affected, or the whole surface. Anæsthesia

may be confined to the sense of touch or the sense of pain. In testing for anæsthesia the patient should be blindfolded and various portions of the surface touched with the fingers, pencils, or heated keys or particles of ice. It will often be noticed that only some regions have lost feeling, and thus the exact nerves affected may be traced.

Analgesia is the term used to denote absence of power to realize pain. It may exist even when there is sensitiveness to touch, though usually loss of power to experience touch accompanies it. Blindfolding the patient and then running points of pins in him, or pinching him unawares, will give proof of analgesia. The cause of the difficulty must be ascertained and removed. When due to "lethargy" of the skin or local causes, baths and friction and stimulating liniments are advisable. Electric baths are especially beneficial, and the electric brush attached to a battery and used freely over the skin will often accomplish permanent cure. For artificial anæsthesia see section on Remedies and Applications.

Anasarca.—This term is used to designate extensive dropsy of the subcutaneous cellular tissue. See article on Dropsy.

ANKYLOSIS. ANCHYLOSIS.

Stiffness of the Joints.

This is a stiffening of the joints or of some special joint, caused by diseases of the joints, rheumatism, and by keeping a limb fixed in one position. If the stiffness involves the bony union in the joint, nothing can be done to relieve it. If from deposits steaming the part and rubbing over it tincture of lobelia and then making motion vigorously may break up adhesions. When there is injury near a joint and ankylosis is feared, it is advisable to make proper passive motion frequently. Stiffness of fingers and limbs might thus often be prevented. Serious cases of ankylosis are often overcome by surgical operations.

ANGINA PECTORIS.

Chest Spasm. Breast Pang.

It is supposed that this dangerous and most frightful difficulty is due to spasm of the nerves of circulation and motion due to over stimulation of the vaso-motor center. It is not regarded as a disease of itself, but as a consequence of diseased conditions, especially but not necessarily of the heart. There is always contraction of the blood vessels and consequent crowding of blood in the left side of the heart, causing the cavities to become distended and unable to perfectly empty themselves.

Symptoms.—Angina pectoris, or "Chest Spasm," is spasmodic and neuralgic in character. A first attack comes on without warning, usually after exertion, especially after eating, or walking up hill or against the wind, or bicycle riding by elderly persons soon after eating; or an attack may be caused by sudden and intense emotion. There is intense pain near the heart and under the breast-bone. The agony experienced is excruciating and indescribable. A sensation of pressure and constriction about the chest is felt; a feeling of suffocation, although breathing is not really interfered with. Pain may shoot from the region of the heart in various directions, and possibly tingling and numbness of the fingers may follow. There are indications of general disturbance. The pulse, at first strong, soon becomes feeble, or irregular. The countenance assumes an anxious and distressed expression, and the patient realizes the liability of death. The face is pale and covered with perspiration—cold and bead-like—while the rest of the body is cold and dry. Very nervous persons may have chattering of the teeth, and fainting or convulsions may follow. An attack may itself be made up of several spasms. The difficulty ceases as suddenly as it commences; but it is always liable to recur under very little excitement or over-exertion. Death rarely follows the first attack. A short attack may last only five minutes and a very long one two or more hours.

Treatment.—Nitrate of Amyl, or nitro-glycerine are often administered in very small doses, one or two

drops of the former, or a single pellet of the latter. These give relief, but are not sanative agents. Five drop doses of equal parts of compound spirits of lavender and of third preparation of lobelia may be safely administered in frequent doses and will be found a valuable and efficient antispasmodic. In severe cases the same preparation in warm water may be used as an injection to the bowels. If the stomach is filled with indigestible food a quick emetic of salt water and mustard should be given. The patient should be placed upright in an open place and his clothing about the neck, chest and waist loosened. Hot water to the feet and hot applications or stimulating liniment over the chest will be found advisable.

Between attacks persons subject to them should live most carefully and avoid all excesses in diet, habits and emotions. They should carry with them the antispasmodic mentioned in order to ward off the first symptoms of an attack. Rheumatism, gout or heart disease, often the cause of angina pectoris, should be treated appropriately.

False, or Pseudo Angina Pectoris.—This is a disease with symptoms similar to the above, only modified. It occurs chiefly in women, after a meal, in hysteria, or at the change of life. The absence of intense pain distinguishes it from true angina pectoris. Treatment should be similar in character, only milder. The false is never fatal, although the symptoms are very distressing. Angina pectoris seldom occurs in persons under forty-five years of age.

Anidrosis is the technical term for diminution of perspiration. It may be caused by disease of the sweat glands, or it may be a symptom of other diseases. See Perspiration.

Ankle Injuries are treated of elsewhere in the articles on Fractures, Sprains, Dislocations.

Anosmia.—*Loss of Sense of Smell.*—This may be caused by blows or falls, inhalations of pungent va-

pors or irritating substances, or it may be the result of chronic catarrh or of certain forms of paralysis. Treatment has been very unsatisfactory.

ANTHRAX.

Malignant Pustule. Charbon. Wool-Sorters' Disease.

This disease is primarily caused by a micro-organism which in certain localities develops upon grass or stalks of grain or hay; thus it finds its way into animals by way of the lungs or stomach and goes through every portion of the body, soon causing death. Their dead bodies and everything the diseased animal came in contact with reeks with contagion. Men who handle them are extremely liable to be poisoned, and even flies from such animals may convey the poison to human beings.

Symptoms.—Wherever the poison of anthrax enters the system, usually at some abraded point on the skin, a malignant pustule is formed on the fourth day after inoculation, and quickly enlarges and ulcerates and looks malignant, and the nearest glands become enlarged. There is general fever and great prostration, which may be followed by collapse and death in four or five days. Cases not fatal do not show general constitutional symptoms greatly, the difficulty being confined to the ulcer, which without aid sometimes heals and the disease disappears, leaving a scar.

Treatment.—As soon as recognized the ulcer must be cauterized—burned out with caustic or red-hot iron. Composition (see formulas) and myrrh must be given internally; the bowels kept open, frequent bathing indulged in and plenty of fresh air provided. Locally compound tincture of myrrh should be applied about the ulcer and, with an equal quantity of hydrastis fluid extract, placed directly in the sore. Ulcers may form in the intestines; they have so far as known always proved fatal. The extreme contagiousness of anthrax should always be borne in mind and the greatest precautions taken in handling cases. The patients themselves should guard against the poison entering the mouth.

ANEURISM.

Bloody Tumor. Tumor of the Artery.

This serious affection is in reality a bursting of the inner coats of an artery causing the force of the blood to bulge outward the remaining coat, thus forming a tumor or enlargement of the artery itself at some particular spot. The most usual place for an aneurism is somewhere in the course of the large blood vessel leading from the heart, termed the aorta. Some persons are so constituted by temperament, predisposition or disease that the walls of their arteries are unusually thin or brittle and aneurism with them may very easily occur. The most general sources of the difficulty, however, are the accidents incident to severe manual or physical labor. Consequently men in middle life and those engaged in trades requiring heavy lifting or great exertion are mostly affected. Tight clothing, especially about the chest or neck, may induce aneurism by interfering with free circulation.

Symptoms.—Occasionally there are no evidences of aneurism until the trouble is far advanced; this is especially so when the tumor is deep seated. As a rule there will be local heat, a sense of fulness and weight, throbbing, and tenderness on pressure. Often sufferers wear a peculiar look of illness and distress and appear anxious without knowing the cause of their trouble. They may become sallow and be easily irritated, and yet lose no amount of flesh. They prefer to keep off their back and to have their head pretty high while in bed. Leaning forward and then suddenly throwing the head backward has been mentioned as indicating aneurism when other signs are also present. Also feeling the pulse at both wrists will usually show that it differs in force on the two sides and that the beats are not in harmony. Often the tumor is so large and so located that its enlargement is manifested by external swelling in the region. Usually this swelling is at the lower part of the chest or on one side of the spine. Such a swelling, tender on pressure and throbbing and persistent in character, will point to aneurism.

Treatment.—Quietude and freedom from over exertion and excesses of all kinds are imperative. Avoid stimulation by drinks or foods. Do nothing that would increase the blood supply, though anæmia is not to be induced. Do not drink too freely, even of water. Rest must be secured by very mild nervines. All care must be taken against such circumstances as would increase distension of the vessels and thus lead to rupture of the remaining coats of the affected part. Sometimes the blood in the tumor may be coagulated, especially in small aneurisms, and this should be an object in treatment. Tannic acid has been used to advantage, but by far the best agent, promising the most marked results, is tincture of gum kino. This may be given in ten drop doses in water three times a day. Keep the bowels open and the skin warm and pliant so as to avoid crowding the blood inward. Anxiety, emotional excitement and anger must be avoided. Operations of various kinds are often resorted to and sometimes effectual. They are dangerous and difficult of performance.

ANUS.

Fissures. Prolapsus. Ulceration.

Fissure of the Anus.—Very pronounced fissures of the anus are frequent in women, the result of accident during labor; such belong to the domain of surgery. But often a fissure or crack in the ring of muscle about the anus may be the result of disease or habit. A small abscess may form and break and be the commencement of a fissure. Constipation and hardened fæces in the rectum may cause great straining in attempts at evacuation and thus lead to fissure. Eczema may also produce the trouble.

Symptoms.—Usually the first knowledge of a fissure is after a movement of the bowels—a smarting, stinging sensation being experienced, and a small particle of blood being noticed. In an hour or so after stool a dull pain, and burning and throbbing will be felt. This may continue for hours. Such sensations return as the result of every evacuation of the bowels, caus-

ing the sufferer to become negligent through dread, thus producing constipation and aggravating the difficulty. Persons suffering from fissure of the anus soon acquire an anxious, care-worn look and grow despondent, and serious ill health may follow neglect to remedy the trouble.

Treatment.—Cleanliness and regularity in going to stool are of the first importance. Hardened feces should not be allowed to accumulate in the rectum, and may be prevented by a liberal diet of fruit and succulent vegetables and doses of physic. Small injections of warm water just before going to stool and retained half an hour will soften feces already hardened. Some fissures will heal of themselves, though the rule is otherwise. Witch hazel ointment is most excellent, and in severe cases a drachm of tannic acid rubbed into an ounce of vaseline will be found serviceable. Some cases will not heal without an operation. The simplest method of restoration is to touch the fissure with lunar caustic, though this may leave a scar which feels unpleasant. The usual operation for fissure of the anus is cutting into the fissure and superficial fibres to the depth of one-eighth of an inch and thus denuding the surfaces, when rest in bed for a week or nine days will permit perfect healing and a permanent cure. Oiling the anus or supporting it by pressure of the finger during evacuation will often prevent fissure.

Prolapsus.—This usually occurs during childhood or old age, and is due to a weakened and relaxed condition of the rectum and its mucous membrane. Constipation and irritation of the rectum or urinary organs may lead to it.

Symptoms.—Falling of the bowels (prolapsus) is readily recognized. During straining at evacuation the rectum seems to turn inside out, and form outside a round or pear-shaped tumor, with an opening in the center, the surface being usually dark red from distended venous capillaries. From one to possibly six inches of the rectum may protrude.

Treatment.—First of all return the bowel to its proper position. This can easily be done by placing

the child on its back with the knees apart and after oiling the parts protruding, gently manipulating them back to their proper place. Cover the membrane with the ointment of tannin named for fissure. Keep the liver free and the bowels open. Goldenseal is a good tonic. Maintain proper habits, give nourishing food and plenty of fresh air. The use of a bed-pan is beneficial, preventing prolapsus being aided by gravitation.

Ulceration.—It not infrequently happens that ulceration occurs about the anus, and this may prove very annoying if left unattended to. The first symptoms will closely resemble those of piles, followed by a sense of relief when the ulceration becomes marked, although there will be pain during defecation, and the discharges will be found to contain traces of pus.

Treatment consists of keeping the parts thoroughly cleansed by frequent washing with warm water and castile soap and then anointing with equal parts of tincture of myrrh and fluid extract of goldenseal and applying witch hazel ointment.

Piles.—*Hemorrhoids.*—These are fully considered in the article on Piles.

APHASIA.

Loss of Power of Speech.

This is a loss of the power of speaking, and is usually caused by a lesion in the brain—in the right side of the cerebrum; or by injuries to certain nerve fibres. In most cases the patient is entirely conscious of his inability and strives to otherwise communicate his thoughts. Tumors, injuries and diseased conditions may be the provoking causes of lesions producing aphasia. The difficulty can be treated only by ascertaining the character and seat of the lesion. Temporary aphasia is sometimes met with in apoplexy, epilepsy, meningitis, hysteria and St. Vitus dance (chorea). Occasionally the intestinal irritation caused by worms or constipation may be transmitted and result in temporary aphasia.

Aphonia.—This is a loss of voice caused by local disturbances. It is likely to occur in bronchitis, quinsy, laryngitis and various other affections of the throat, and it must be regarded as a symptom of those difficulties. It will disappear under the treatment proper for the various diseases with which it is associated.

Aphtha.—See the article on Thrush.

Apthous Ulcers.—See article on Mouth Ulceration.

Apthous Fever.—See Foot and Mouth Disease.

Apnoea.—This term literally means without breath, and is used to designate the condition which hinders air from entering the cells of the lungs in sufficient quantities to support life. It may occur in the course of many diseases—especially lung troubles. It is also frequent in heart affections, and may likewise be caused by spasmodic closures of the glottis by foreign substances or throat difficulties, or by the atmosphere inhaled being deficient in its proportion of oxygen or containing deleterious gases. All cases of apnoea must be treated in accordance with the cause of the difficulty as directed in the articles devoted to the various difficulties and diseases in which apnoea is likely to occur.

APOPLEXY.

Hemorrhage in the Brain.

So suddenly does an attack of apoplexy come upon a person that the ancients not inappropriately called it *attonitus* (thunder-struck). The difficulty always is the result of pressure upon the brain caused by an excessive amount of blood in the vessels or the rupturing of a blood vessel in the brain. Persons of any age may be affected, but those over fifty are the most frequent victims, and certain individuals are more liable than others to be stricken.

Persons with a florid complexion, short neck and large abdomen and a tendency to rapidly accumulate flesh have cause to fear apoplexy, especially if they live high and take little exercise. Indulgence in alcoholic liquors by such persons is highly dangerous. Excessive mental labor, sudden great excitement and continued exhaustive physical labor may bring on a stroke of apoplexy in anyone. Again, there are peculiar organizations whose blood vessels seem liable to become brittle, and prone to burst readily. Even very thin persons and those who live most carefully may thus suffer from apoplexy.

Warning Symptoms.—While a stroke of apoplexy comes on with great suddenness, still there are certain premonitory symptoms usually manifested which should be recognized and heeded as warnings by those who are especially inclined to the disease, and should cause them to be careful in their habits. These warning symptoms are: Headache, dizziness, especially when stooping, blurred vision, throbbing sensations in the neck or head, ringing in the ears, flushing of the face, especially after eating or slight exertion, bleeding of the nose. No one of the symptoms alone would indicate apoplexy, but many of them together, occurring in persons predisposed to the disease, should give occasion for great concern.

Peculiar Symptoms.—A stroke of apoplexy may come on in one of three ways. *First*, the victim experiences a sudden pain, darting through the head; he then becomes extremely pale, sick and faint, and perhaps vomits freely; his memory rapidly leaves him and his countenance appears deathly and his eyes have a vacant stare. He sinks into a most profound stupor and dies. These cases are almost hopeless, for there is little vitality to be aroused.

Second.—There may be a sudden paralysis upon one side of the body, loss of speech and apparent agony of mind. Such cases are slow in developing stupors and full recovery from the paralysis is highly improbable.

Third.—Usually the victim falls suddenly as though

struck and lies in a stupid sleep, having no power of speech or thought, the face is flushed, the teeth clenched, the veins of the neck large and distended, the breathing slow and heavy and snoring, and the pulse slow and full and its stroke hard or violent beneath the fingers; the cheeks are distended and often the breath passes through them with a puffing sound. The pupils of the eyes remain unchanged as light is brought near.

Occasionally there are involuntary discharges from the bowels and bladder, though as a rule obstinate constipation follows an attack. In mild cases the patient endeavors to speak but seems to forget certain words necessary to convey his meaning. Swallowing in severe cases is extremely difficult.

Apoplexy from the bursting of a blood vessel gives sudden and complete unconsciousness, and is usually fatal, some patients dying in four or six hours, most living from three to nine days and a very small number recovering with the exception of more or less paralysis. But no person after a stroke of apoplexy can be considered out of danger until ten days after the attack. A third attack usually proves fatal; unless manifestly brought on by excessive eating. The older the patient the less chance for recovery.

Treatment.—This depends upon the immediate cause of the attack. If from over-eating, the distended stomach is pressing upon the large blood vessels and causing an excessive amount of blood to go to the brain. Manifestly in such cases the patient must sit upright, and not be allowed to lie down—that would increase the pressure. Next, the stomach must be unloaded at once—warm water with salt and mustard is most useful. The hands and feet will usually be found cold; bathe them in hot water containing mustard or ginger. Always loosen the clothing about the neck and body and allow abundance of fresh air.

When it is known that the attack is not caused by over-eating, the patient may lie down with the head raised. Enforce quietude and bathe the extremities in hot water containing stimulation. The bowels must be moved—injections of warm water containing

salt and ginger being excellent. Days may elapse before improvement is noticed. But the means of relief must be persisted in, and the patient sustained by frequent administration of broths or other soft or liquid nourishing foods. If swallowing is too difficult sustenance by injections must be resorted to. Feeble heart action may be sustained by small doses of an infusion of goldenseal and scullcap or cactus.

The rules to be observed by persons predisposed to apoplexy may be stated as follows: Avoid excessive labor, mental strain, anxiety and excitement. Eat plain food, and that very moderately; subsist mainly on fruits and vegetables. Leave all alcoholic liquors alone. Keep the bowels open, exercise moderately and keep a cheerful disposition—do not quarrel. Never lie down soon after eating, and don't retire at night with a full stomach. Avoid exercise before breakfast and immediately after meals. Avoid hard water, which often makes brittle the blood vessels in some persons; and do not indulge in foods or habits liable to produce fat.

APPENDICITIS.

Faecal Abscess. Typhlitis.

At the end of the small intestines above the right groin, just before the large intestines commence, there is an enlargement of the intestine called the cæcum, and running out from this pouch-like enlargement is a small appendage, called the vermiform appendix on account of its worm-like appearance. This appendix has a small canal in a portion of it, with an orifice in the cæcum. The exact use of the vermiform appendix has not yet been definitely agreed upon. By the accumulation of faecal material and rarely of small seeds, etc., in the cæcum, or in the canal of the appendix, or by inflammation extended from other parts, the cæcum and vermiform appendix may become inflamed, causing a condition termed *typhlitis*. Inflammation of the peritoneum about the cæcum is called *perityphlitis*, that of the cæcum's connective tissue is known as *paratyphlitis*, and inflammation of the vermi-

form appendix is termed *appendicitis*. The last term being most generally used and representing the most frequent form of the trouble.

Symptoms.—First of all will be very sharp pain in the region just above the right groin and intense suffering upon pressure or movement. At that point examination will reveal tenseness and soon considerable swelling, beneath which may be found an oval tumor, and the whole abdomen will become enlarged. The patient will be found on the right side with the limbs drawn up to relieve all tension of the muscles of the affected region. Constipation is marked, and the urine is partially suppressed; often there is vomiting of offensive material having a faecal odor, the pulse is wiry and frequent, the countenance distressed and the voice feeble.

If the appendix alone is inflamed, there will be no faecal odor to vomited material and the swelling and tumor will be less pronounced, although the pain will be intense. The danger in these cases lies in the liability of suppuration and perforation into the abdominal cavity. Sometimes there may be suppuration and evacuation outward, or through the bowels, or the suppurative materials may be absorbed.

Treatment.—If the inflammation is caused by accumulations of faeces in the caecum, large injections of warm water or infusion of spearmint (three or four quarts in amount) should be given, and repeated if necessary until free evacuations are obtained. When inflammation of the appendix exists place over the affected region a large and hot mullein-leaf poultice, containing considerable lobelia herb and sprinkled lightly with ginger; and administer by the mouth teaspoonful doses of an infusion of lady slipper, one teaspoonful, and lobelia, half a teaspoonful, to a cup of boiling water, every half hour. Sustain the strength by broths or malted milk or other liquid foods. Enjoin perfect quietude in bed, and move the bowels by injections, never using cathartics.

The surgical operation for appendicitis is frequently resorted to, but in nearly all cases needlessly; the removal of the vermiform appendix being a bad, very remunerative to the surgeon who can persuade others

to submit to his desires. Persons who eat heartily after long abstinence or while the intestines are empty after catharsis or otherwise, are especially liable to be attacked by appendicitis.

Arsenic Poisoning.—See Poisons and their Antidotes.

Arthritis.—See Rheumatism of the Joints.

Articular Rheumatism.—See Rheumatism.

Ascaris Lumbricoides.—This is the technical name for the plain round worm of the intestines so common in children. For full description and treatment see the article on Worms.

Ascarus Scabies.—This name is that of the insect which causes the disease known as Itch, by burrowing under the skin. Its description and treatment will be found in the article on Itch.

Ascites. — Hydro-peritoneum.—The accumulation of fluid in the cavity of the peritoneum, a form of dropsy distinguished from *anasarca*, which is an accumulation in the cellular tissues. See Dropsy.

Asiatic Cholera.—See Cholera.

Asphyxia.—Death from lack of air. See articles on Drowning, Poisoning by Gas, Suffocation.

Asthenia.—A condition which may arise during almost any disease, dependent upon a lack of tone in the nervous system. It is characterized by listlessness and inability. A low grade of fever is said to be *asthenic* when there is but feeble resistance made to the encroachments of disease.

Asthenopia.—This is weakness of vision and is often spoken of as weak sight. It is described in the section on Eye Diseases.

ASTHMA.

Phthisic Spasmodic Breathing.

This is a disease characterized by paroxysms of difficult breathing, and is due to contraction of the smaller bronchial tubes, brought about by spasms of the bronchial muscular fibres. It is a difficulty reflex in character, that is transmitted from a disturbance of a nerve center elsewhere. Often it is associated with valvular disease of the heart, and it should always be regarded as a constitutional malady and not one confined to the respiratory organs. Attacks may be caused by over eating or over exertion, irritation at some point as in the stomach or bladder or upon the skin, or in the rectum by constipation, indulgence in highly seasoned food, liquors or indigestible foods. Sweets of all kinds are also provocative of attacks in those disposed to asthma.

Symptoms.—An attack always comes on suddenly, although often preceded by an oppressed sensation in the chest and a wheezing which is annoying. As a rule the patient awakens in the night feeling as though being smothered. He can't get his breath and sits up or gets out of bed, throws his head back and opens his mouth gasping for air, the shoulders drawn up. The muscles of the neck and head and over the ribs are rigid, while the muscles of the abdomen which assist breathing are acting violently. The chest is enlarged, as well as the abdomen. There seems to be a stagnation of air in the lungs. In severe cases the extremities are cold and the face pale, the eyes having a terrorized expression, and the surface covered with perspiration. A fit of asthma may last a few minutes, two or three hours, a whole night, several days or for weeks. It is very rarely immediately fatal. As an attack passes away a slight cough commences and there is expectoration of mucus—sometimes frothy, sometimes viscid or in the form of little dark balls; and in severe cases streaked with blood. Recovery from the attack may be gradual, or it may terminate as suddenly as it commenced, especially if appropriate treatment is pursued.

It is important to distinguish true asthma from the

disturbance of breathing caused by heart troubles. The difficult breathing connected with organic heart disease may likewise come on in paroxysms, but it is of a gasping and panting character and very shallow and there is no wheezing sound. The heart is likewise greatly disturbed and the pulse usually weak and irregular.

Treatment.—During a paroxysm of asthma an abundance of fresh air must be supplied and all tight clothing loosened. Dropping a little rosin on a hot stove will often cause relief by its vapor being inhaled. The most effectual remedy to be used is the following:

Take Tincture of Lobelia.....5 drachms.

Fluid extract Cramp Bark.....2 “

Essence of Ginger.....1 “

Mix. Take five drops in water every ten minutes until relief is obtained.

Nausea may follow the use of these drops, but such will only hasten the relief.

Asthmatic persons must avoid excesses of all kinds and use plain but nourishing diet. Usually it will not be found difficult to locate the disordered organ which is the actual seat of the disturbance, and its appropriate treatment may lessen the severity of attack and perhaps entirely obliterate them. As a rule the kidneys must be carefully watched and the bowels never allowed to become constipated. Very little encouragement can be given those who have seemingly inherited the condition, beyond the fact that it is not incompatible with a long life.

Asthma of Hay Fever.—This is an entirely different malady from ordinary asthma, described above. Its causes, symptoms and treatment will be found in the article on Hay Fever.

Astigmatism.—An irregularity of vision caused by lack of uniformity of the convexity of the lens or cornea. Described in the section of Eye Diseases.

Asymbolia.—*Inability to Communicate.*—A rare condition in which the person afflicted is unable to com-

municate in any way with others. It is a condition dependent upon brain lesions; and is usually a symptom of some pronounced difficulty, which must be appropriately treated.

ATAXY.

Locomotor Ataxy. *Tabes Dorsalis*.

A very peculiar condition of the nervous system is known under this name, characterized by loss of sensitiveness of the skin and inability to control movements of the limbs. It was formerly classed as a form of paralysis. It comes on insiduously. Pains of a neuralgic or rheumatic character, headache, impaired vision, frequent desire to urinate and "pricking" sensations of the limbs or extremities, are early symptoms. Soon inability to control the movements of the limbs becomes manifest, and trying to walk with the eyes shut will cause staggering. Applications of heat, pricking with pins, etc., on portions of the back fail to cause any sensations. Many other symptoms may be manifested. It is a disease of middle life, and its causes are various. Long exposure to cold and moisture, sexual excesses, syphilis, poisoning by lead, arsenic or ergot, and injuries to the spine have been known causes.

Treatment.—If possible the patient should visit the southern mountains or seek an equable and dry climate. Electricity to the spine is of great advantage. The cause must be ascertained and remedial treatment based accordingly. Narcotics must be prohibited. Vapor baths and massage are of great value. The disease lasts from a few months to twenty-five years or even longer.

Atelectasis.—*Pulmonary Collapse.*—From compression or from obstructions in the lungs, air may be prohibited from entering the air cells, and the result will be collapse of the vesicles. It very frequently occurs in children during the course of whooping cough, bronchitis, measles and croup. It is exceedingly fatal

in very young persons and in the aged. It is fully treated of as capillary bronchitis in the article on Bronchitis.

Atheroma.—A degenerate condition of the arteries occurring in various diseases, such as apoplexy, phthisis, syphilis, etc.

Athetosis.—*Involuntary Muscular Contractions.*—In this condition, which occasionally accompanies certain forms of paralysis, the extremities, especially fingers and toes, undergo uncontrollable spasms. These spasms may consist in the members being firmly separated or flexed. They may occur during sleep and may be increased by fright or other emotions. Treatment is in accordance with that for paralysis.

Atrophy.—Under various circumstances and as the result of many different causes the condition known as *atrophy* may take place. It is the shrinkage or wasting away of tissues, and may take place in any part of the body. The brain, heart, liver, nerves, spinal cord and various organs, and the bones and skin and muscles are all subject to atrophy. The condition and the means taken to prevent it or overcome it are fully considered in the articles treating of the diseases of the various organs and tissues which may be thus affected.

BACK-ACHE.

Stiff Back. Crick in the Back. Sprains.

In nearly every instance back-ache is a symptom of some disease, and can be relieved only by treatment appropriate to the real difficulty. Sometimes severe back-ache is directly and positively traceable to a cold, caused by sitting in a draft, etc., and local treatment will afford permanent relief. A good liniment to rub over the back is: Tincture of capsicum and essence

of origanum, each one dram; tincture of lobelia, one ounce; alcohol, three ounces. Placing dry, hot flannel over the back often gives quick relief. It is also a good plan to accompany such methods by a good drink of hot ginger tea. Many resort to a cold pack for relief. This is had by placing on the bed a double blanket and upon this a sheet folded up to the size of the back and saturated with cold water; place the patient on his back upon this and draw the blanket around him; and let him remain till the back feels very warm.

Back Sprains.

These are usually the result of violent exercise of unusual character, or of falls or other accidents. They oftenest occur in the loins or neck, and may be known from dislocations or fractures by the fact that in sprains the spine itself is straight, there is no bulging at any one point and tenderness is diffused and the patient is able, although usually with pain, to straighten himself out. Occasionally from strains there may be ecchymosis (black and blue appearance) and considerable swelling.

Treatment.—Quietude in the most comfortable position, usually lying bent upon the side. A capsicum plaster is very beneficial. The treatment given under back-ache should be employed. Sprains rarely confine a person to the bed more than two or three days, though occasionally they are obstinate in yielding to treatment when the ligaments are involved.

BAKERS' ITCH.

Bakers' Salt-Rheum. Flour Scabs.

This difficulty occurs as a result of the irritation caused by handling flour, and rarely appears except upon persons in ill health or of feeble constitution. Bricklayers are often sufferers from this difficulty as a result of irritation from handling bricks. It is then termed Bricklayers' Itch. The disease resembles eczema or salt rheum, causing itching and sometimes bleeding sores and scabs to appear over the hands

and between the fingers. When the irritation is caused by lime the disease is called Bricklayers' Itch.

Treatment.—The cause of ill health must be learned and removed. Usually the system will be found overloaded. The bowels must be moved freely and the liver evacuated by use of liver pills. The Gentian tonic (see formulas) must be given freely and nourishing food, fresh air and out-door exercise provided. Locally use the following method of treatment: Wash only with borax water. Apply four or more times a day a lotion composed of tincture of calendula, distilled extract of witch-hazel, white hydrastis and glycerine, equal parts, boracic acid, five grains to the ounce. Wash the hands thoroughly before each application.

Baldness.—*Alopecia.*—This is fully treated of in the article upon Diseases of the Hair.

Barbadoes' Leg.—*Elephantiasis.*—An enlargement of the integuments, usually of the leg, known as hypertrophy. In this disease the limb (usually one only) may become twice the size of its fellow, or ever larger. Its causes and treatment are fully considered in the article on Elephantiasis.

Barber's Itch.—See Eczema of the Beard.

Barrenness.—*Sterility.*—This condition may be brought about by many causes and is a symptom of disease or malposition of itself. It is fully considered in the section on Diseases of Women.

BED SORES.

Gangrene. Mortification.

These most distressing sores frequently come upon persons compelled to lie in bed any length of time and are most frequent with the aged and with paralytics. They may be hastened by lack of cleanliness, allow-

ing discharges to remain on the clothing, wrinkled sheets and too warm clothing.

Symptoms.—The first signs are complaints of creases in the sheets or of crumbs or particles on the bed clothing. An irritated spot appears and soon becomes livid and a flat ulcer follows, this may deepen and eat into the bone, spreading rapidly. It is one form of gangrene.

Treatment.—Preventive measures are of the highest importance; have the sheets perfectly smooth, cleanse frequently—borax water is excellent for bathing the parts, and if the sores have started, tincture of myrrh should be added. Dust the sheets and parts with oxide of zinc powder, and if the sores develop, use compound tincture of myrrh in and about them freely. If the skin breaks and an ulcer follows, cleanse it frequently, washing with a syringe and borax water. Soaked picked okum in compound tincture of myrrh diluted and put into the opening and cover all with adhesive plaster. Change dressings often and keep adjoining parts as clean as possible. Use no poultices, unless to hurry away an ulcer, when one of flaxseed and charcoal may be applied for a few hours.

BED-WETTING.

Eneuresis.

This annoying difficulty is almost exclusively confined to children. It is caused by a general nervous condition and is to be treated accordingly. Children should be trained to evacuate the bladder at stated intervals during the day, and at night the parents should take them from bed at least twice after retiring—once about an hour and a half after going to bed and again about three o'clock in the morning. This is bothersome, but not so annoying as having the child wet the bed. Never scold children for this trouble, it only aggravates matters; they cannot control themselves or they most gladly would do so. It is not

necessary to awaken them at night; simply lift them onto the vessel and kindly urge them to urinate.

As the child's nervous system strengthens, the habit will be overcome. Give wholesome food and do not allow much eating or drinking at night time. But do not injure and weaken the system by starvation or unsatisfied thirst. A most excellent remedy is as follows: Agrimony, corn-silk, lady slipper and shepherd's purse, each one ounce, steep in one quart of boiling water, strain and add two pounds of white sugar and two fluid ounces of glycerine. Give a teaspoonful before each meal and at bed time. Avoid pastry and highly seasoned foods and allow no tea or coffee.

BERI-BERI.

Impoverishment of the Blood.

This is a disease which is but little known in this country, though it is frequent in India. It seems to be caused by an impoverished condition of the blood and a general failure of nutrition of the nerves. The symptoms are: Great weakness, coldness of the extremities and deathly paleness. The tongue appears bloodless, the pulse is very frequent and weak, there are spells of palpitation and of difficult breathing. The bowels become obstinately constipated and the kidneys inactive. Swelling in different parts of the body take place and at last all organs and tissues seem filled with fluid, stiffness, numbness and paralysis follow, and death is usually preceded by fluid filling the cavity of the lungs or the heart.

Treatment.—A nourishing diet is of the greatest importance, and the assimilation of food must be aided. Tartrate of iron and potassa in doses of three grains four times daily will be of use. Composition (see formulas) should be used freely. Citrate of lithia, two grain doses, will be found of advantage, taken with ordinary drinking water. Salt water baths and friction, fresh air, out-door exercise and plenty of sleep should be allowed. The disease comes on slowly and

may last many months before death takes place or convalescence is established.

Bile Deficiency.—Acholia.—This condition may be brought about by many causes, and may result in very serious complications. It is fully considered in the article on Liver Diseases.

Biliary Calculi.—These are caused by the hardening of gall in the gall-bladder or ducts. See the article on Gall-Stones.

Bites.—See Poison Wounds.

BLADDER DIFFICULTIES.

Atony. Catarrh. Inflammation. Spasm. Rupture.

Atony.—This is a general lack of tone in the muscles of the bladder. It is most usual in old age as a result of general weakness. Sometimes it occurs during a protracted fever, or as a consequence of stricture or of paralysis.

Symptoms.—A feeling of weight is experienced, due to the large accumulation of urine, which is retained until the bladder becomes full and is then passed without effort, little by little, as an overflow.

Treatment.—The use of the catheter to draw off the urine becomes imperative; this should be done morning, noon and evening so as to prevent too large an accumulation, which would aggravate the difficulty. Following each evacuation the bladder can be washed out with cold water with good effect. Tonics should be administered internally. Fluid extract of corn-silk and tincture of gum kino, five drops each, in a little water, are excellent given four times a day. If the difficulty is caused by manifest spinal depression, five drops of fluid extract of dioscorea (wild yam) should be added. Use the nerve liniment (see formulas), and friction over the lower part of the back and over the region of the bladder. Supply nourishing food and out-door exercise. Avoid using much fluids and refrain from excesses of all kinds.

Cancer.—The technical name of this affliction is Carcinoma Vesicæ Urinariæ. The inner coats of the bladder are usually involved. The disease is rare and is always caused by the spread of cancer from some other part.

Symptoms.—Bloody urine and lancinating pain in the region and through the perineum. Pain is as acute and sharp when quiet as when stirring about, by which fact it may be distinguished from stone in the bladder. Little can be done in the way of treatment, as cancer of the bladder is fatal. Soothing nervines may be used to allay suffering (see cancer), and hemorrhages may be checked by injections into the bladder of infusion of gum kino.

Catarrh of the Bladder.—*Chronic Cystitis. Vesicular Catarrh.*—This is also known as chronic inflammation of the bladder. It is usually the result of neglected acute inflammation, but may be caused by stone in the bladder, cancer, tumors, stricture, or diseases of adjacent parts.

Symptoms.—There is a dull aching pain through the perineum and region of the bladder, a straining feeling and desire to urinate, sometimes the urine dribbles away. The urine itself has a strong odor of ammonia, and is usually cloudy and may contain shreds.

Treatment.—The diet is the most important thing to be regulated. Coffee and alcoholic liquors must be abandoned. Sweets, starchy foods and meats must be avoided. Vegetables, such as asparagus, turnips, onions and others that are succulent are excellent; fish and milk may be taken freely; bathing frequently should be indulged in.

Medication.—Uvi ursa and peach leaves in infusion are most excellent. If there is great straining to urinate and irritation, marsh-mallow root will be found soothing. In protracted cases buchu should be used. If there is a tendency to suppuration, as will be shown by the presence of pus in the urine, baptisia and compound tincture of myrrh should be added to the infusions. Salicin, in five grain doses four times a day, will be a suitable tonic.

Acute Inflammation.—This is the ordinary acute cystitis. It is simply an inflammation of the inner membranes of the bladder. It may occur at any time, though most common in male adults. Exposure to cold, intemperance, prolonged retention of urine, foreign bodies and injuries and diseases of the adjacent organs are all causes of cystitis.

Symptoms.—These are: Frequent desire to urinate and pain in the thighs and groins. The urine is passed spasmodically as soon as it enters the bladder; it is laden with mucus and in severe cases may contain pus and blood. The chief distress seems to be about the neck of the bladder. It is seldom fatal, except in the aged and infirm, when severe cases may be followed by gangrene of the bladder.

Treatment.—Keep the bowels well open and drink freely demulcent infusions—flaxseed and lemon are good. The following will be found most useful: Marsh-mallow root, couch grass, shepherd's purse, each one-half ounce, steeped in boiling water, one quart, strained and half a cupful taken every three or four hours. Persons afflicted with inflammation of the bladder will find it an excellent plan to carry in the pocket chopped-up pieces of marsh-mallow root to be eaten off and on during the day. Hot wet cloths over the region of the bladder will relieve pain.

Paralysis.—*Cystoplegia.*—This may occur in the course of a nervous disease, due to lesions of the brain or spinal cord. *Symptoms* are: Retention of urine and a tumor over the bladder from its distension. Involuntary discharges of urine may occur in protracted cases.

Treatment beyond the general treatment of paralysis is of little use. Washing out the bladder with cold water or external application of cold water, or using electricity, may prove of tonic effect. The urine should be drawn off with a catheter and not allowed to accumulate. If incontinence of urine occurs, the patient should wear a rubber urinal.

Spasm.—*Hyperæsthesia.*—This is sometimes spoken of as *stammering* of the bladder. The person afflicted

seems to have no control over the act of urinating. Sometimes the desire to urinate will be painfully intense and uncontrollable several times an hour. Often when voiding urine sudden pain will shoot through the parts, and the neck of the bladder may quickly close before the organ is emptied. In some cases it resembles stammering of the voice, insomuch as the effort to perform the act of urination or the mere thought of it brings on the symptoms mentioned.

Treatment should be directed toward quieting the nervous system in general. Fluid extract of cramp bark in ten drop doses is excellent to relieve the local spasms. Third preparation of lobelia, two drops in water every hour, will be found serviceable. Strengthen the patient by nourishing diet and fresh air; and turn the thoughts to other subjects.

Rupture.—The bladder may be ruptured by a fall upon the abdomen, or a wheel running over it when it is full. There will be sudden and intense pain, and great desire to urinate; passing a catheter will draw off little or no urine, or else some blood. A condition of collapse follows, and afterward peritonitis. No treatment will be of avail. Under some circumstances a skilled surgeon might operate.

Stone in the Bladder.—See Calculi.

Black Death.—See article on Plague.

BLEEDERS' DISEASE.

Haemophilia. Haemorrhagic Diathesis.

This is more a peculiarity of the organization than a disease. It is characterized by a great tendency to bleed upon the slightest provocation. A mere scratch of a pin may cause disagreeable results, and an ordinary deep cut of the finger may cause death from loss of blood if not properly attended to. The disposition is usually a family characteristic, far more frequent with males than females. It is often called the hæmorrhagic diathesis.

Treatment.—Caution against accident is of first importance. Persons afflicted should avoid mountainous regions, as the rare atmosphere permits the thin blood-vessels to be more readily distended and more easily broken. Hard water should not be used, but fatty foods and most nourishing diet should be the rule. Medication is of little if any direct value, beyond prompt remedial agents in time of trouble. Gum kino infusion taken daily will strengthen the blood vessels, but care must be taken to keep the bowels open.

BLEEDING OF THE NOSE.

Epistaxis.

This is usually a trifling matter and is often a relief after severe mental labor or to persons of apoplectic tendencies. But occasionally the bleeding is so profuse as to cause alarm or weakness. The application of cold water or ice just above the nose and behind the ears, pressure of the nose, plugging the nostril, etc., are usually sufficient. In severe cases roll a mass of cob-webs into a wad and run up the nostril, press on the large artery of the temple, throw the head back, or grate salted dried beef and put in the nostril, or spray into it an infusion of kino.

Some persons are especially prone to bleeding of the nose. They are either sickly, and should be treated according to their ailment, or are of the "hæmorrhagic diathesis," known by transparent skin, thin nostrils and sandy hair. Such persons should not reside or travel in mountainous regions where the light atmosphere allows distension of the blood vessels and easy rupture of the capillaries.

BLOOD POISONING.

Pyæmia. Septicæmia.

Under certain circumstances during the existence of ulceration in various parts of the skin or mucous membrane, the poisonous pus is liable to be carried around in the circulation, causing a most serious con-

dition, known as the septic condition, septicæmia, pyæmia or blood poisoning.

Among the circumstances rendering blood poisoning liable may be mentioned carelessness, uncleanness, improper dressing of sores, feeble constitution and bad habits. The poison of wounds may be conveyed to others through knives, instruments, dressings, etc., coming in contact with abrasions. Blood poisoning is a serious matter and often trifling difficulties are thus designated which bear no resemblance to pyæmia. All ulcerations must be carefully watched lest blood poisoning should follow.

Symptoms.—At the onset there will be a decided chill or perceptible shiverings and a feeling of depression. These shivering sensations may be frequently repeated and their intervals be characterized by profuse perspiration. The pulse becomes very frequent, possibly 140 or more per minute. The glands become swollen, and the regions about the wounds look red and angry. The breathing grows rapid, and there is an anxious expression to the countenance. The surface is pale, and prostration is marked. Death may result within a week. Prolonged cases may give progressive emaciation, frequent chills and hectic fever, swellings of the joints, loss of appetite, sleeplessness, yellowish or spotted skin, furred tongue, great thirst, cough with distress in the chest, great prostration, both mental and physical, and death.

Treatment.—This must be based upon an effort to sustain the patient's strength. The best preparation that can be devised is infusion of composition (an ounce to the pint) given in doses of a quarter of a cupful every hour. In severe cases add a small amount of compound tincture of myrrh. With this give every three hours a teaspoonful of fluid extract of gentian sprinkled with cayenne pepper. Wash the wounds thoroughly with borax solution, and if the discharge is thin and unhealthy looking apply pulverized myrrh directly to the sore. Keep the bowels open by means of mild laxatives; frequently bathe the body and enjoy quietude. The diet must be light and of easy di-

gestion. Keep the temperature as even as possible and allow an abundance of fresh air. Septicæmia may prove fatal in a few days, or by care it may be quickly overcome in the robust.

Blenorrhœa.—Fully described in the section on Diseases of the Generative Organs.

Blepharitis.—This is an inflammation of the eyelids and is considered in the section on Diseases of the Eye.

Blood in the Urine.—*Hematuria.*—A condition brought about by various causes, considered in the article on Urinary diseases.

Bloody Tumor.—See article on Aneurism.

Bloody Vomiting.—*Hematemesis.*—See article on Diseases of the Stomach.

Blue Disease.—*Cyanosis.*—This condition is brought about through interference with free respiration. It is fully considered in the article on Cyanosis.

BOILS.

Job's Comforters.

Anyone may suffer from boils, and they are not always indications of bad blood. They occur on almost any part of the body and are usually excited by portions of the clothing rubbing against the skin. The neck seems to be a favorite spot, perhaps, on account of the chafing caused by the collar. Boils seldom come singly; one is usually the forerunner of several others. The symptoms are well known. A redness commences at some one spot, followed by swelling and tenderness and then suppuration and great pain. In four or six days the boil "comes to a head" and discharges its "core" and then slowly heals, leaving a red, depressed scar. Boils may have no "core," but subside without ulceration.

Treatment.—In the midst of the elevated red spot of an initial boil will be found a hair. Extracting this hair at the beginning may stop development, as it is at the root of this hair follicle that ulceration commences. When the boil is formed cover it with a plaster of black salve (see formulas). Poultices of flaxseed sprinkled over with pulverized lobelia will hasten development. Tardy boils, if deep seated, should be lanced. If a person is subject to successive “crops of boils,” he should take a compound syrup of sarsaparilla and avoid fat meats and stimulants. Frequent applications of cloths wrung out of very hot water to the parts usually afflicted will be found efficient in stopping their return.

BONE DISEASES.

Abscess. Inflammation. Hypertrophy. Caries. Necrosis.

The bones of the body are dense tissues, having a circulation and also nervous structures like other tissues, and are subject to various diseases. The structures of the bones themselves may become altered in character or the coverings of the bones may be diseased.

Abscess of Bone.—This is of rare occurrence, and usually forms at the head of the large bone of the leg just below the knee joint. The cause of the abscess is not always to be recognized, though injury is the most common cause. Scrofulous persons may have abscess of the bones without any directly exciting cause.

Symptoms.—There is a constant and continued deep-seated pain in the region of the abscess. There is a great tenderness upon pressure, and the use of the affected bone causes great suffering. Often the whole system feels weak and there may be nausea and fever, and all symptoms manifestly having their origin in the condition of the bone.

Treatment.—When the presence of an abscess of the bone is definitely ascertained, there should not be lost

any time in procuring proper instruments and proceeding to trephine, that is, cut into the bone itself and thus reach the abscess and allow evacuation of the pus. Usually the abscess may be readily reached. After the cavity has been entered and pus is ascertained to be present, it should be drawn off by the aspirator, and a solution of boracic acid containing tincture of myrrh should be injected. A plaster of black-salve (see formulas) should be applied over the opening. Alterative syrup should be used freely and especially so with scrofulous persons. If abscess of the bone near a joint occurs, it is apt to involve the joint itself unless properly attended to early. It will be many weeks before recovery commences, and during that period fresh air, cleanliness, rest and wholesome diet must be provided.

Inflammation.—Ostitis is the name given to inflammation of the bone proper. It is usually caused by a blow or other injury to persons who are afflicted with syphilis or other constitutional disease or disability.

Symptoms.—There is usually swelling and redness over the bone, and deep-seated or dull pain, becoming severe at night, causing wakefulness and consequent exhaustion of the system. The bone itself will become enlarged, and if unattended to will result in destruction.

Treatment.—Ostitis being almost universally traceable to constitutional difficulty, the especial disease must be ascertained and treated. In addition it will be found advantageous to give the afflicted limb frequent hot vapor baths, and directly after each bath apply a liniment composed of equal parts of compound tincture of myrrh and essence of origanum. Keep the limb elevated. The compound syrup of stillingia (see formulas) is a most excellent alterative to be used internally.

Periostitis.—This is inflammation of the covering of a bone, and it occurs usually in boys of scrofulous tendencies or in ill health about the age of fourteen

years. The large bone of the leg or the femur (bone of the thigh) is usually the one affected. It is an extremely dangerous disease. Death may occur from exhaustion or as the result of blood poisoning.

Symptoms.—There is general feverishness and local swelling and great pain, which is very deep-seated, in character like that of a bone felon. Some may mistake the difficulty for rheumatism, though periostitis does not affect the joints. When suppuration commences the limb swells and becomes red and glassy, and the skin may seem about to burst. There are frequent chills followed by fever of a low grade, and great weakness and nervousness. If death does not occur early, there will be great emaciation and exhaustion as the result of intense suffering.

Treatment.—Locally there should be applied hot fomentations composed of mullein leaves and smart weed, equal parts, and sprinkled over with powdered lobelia. These should be changed frequently. Internally should be administered, hourly during severe symptoms, an infusion of lady slipper and ginger. If chills occur, indicating suppuration, composition should be used abundantly, with occasional addition of compound tincture of myrrh. If possible, an incision in to the bone should be made and an outlet thus made for the pus when suppuration takes place; the incision being frequently dressed with Number Six and fluid extract of goldenseal. Recovery will always be very slow, when convalescence is established. During that period compound syrup of yellow-dock and gentian compound should be used alternately (see formulas).

Hypertrophy.—Often following inflammation or injuries hypertrophy or enlargement of the bones may occur. Beyond the mere fact of enlargement made apparent to the senses, there are no appreciable symptoms beyond inconvenience.

Treatment must be in accordance with the primary cause. Usually the administration of compound syrup of stillingia will be found serviceable and the outward application of nervine liniment (see formulas).

Tumors or Nodes.—Sometimes as the result of blows or injuries, or unaccountably, there may be formed bony tumors or prominences upon a bone. They may be distinctly felt by pressure. They cause no pain and need no attention unless their position renders them a decided inconvenience or interferes with the movement of muscles or ligaments. In such cases the tumors or exostoses may be successfully removed by a surgical operation.

Atrophy of bones may follow injuries or be the result of scrofulous diseases, to be treated according to the cause.

Osteomalacia.—This is a disease of old age or adult life and is a degeneration of the bony structures—the earthy or calcareous portions becoming greatly deficient and the fatty portions becoming excessive. Thus is caused a softening and weakening of the bones. This difficulty not infrequently occurs during pregnancy or as a result of too frequent child bearing—the earthy elements by some process being directed toward building up the skeleton of the foetus. Improper diet during the nursing period or too long nursing may cause women to suffer osteomalacia.

Symptoms.—Pains through the back, about the shoulders and the hips, of a rheumatic or neuralgic character, are experienced, and aggravated by remaining in one position. The pain is dull and constant and is soon realized to be other than rheumatic. In women the share bone is pushed forward and the hips flattened. In old persons the softening of the bones cause the spine to become bent. The shoulders become elevated and crooked and the chest projected. The head is thrown forward and downward. By unnatural crowding the free action of the heart and of the lungs is interfered with, and the bones of the body are easily broken and unite with great difficulty, if at all.

Frequently death is the result of disorders made more liable on account of general disturbance—such as consumption, pneumonia, kidney disease, exhaustion, etc. Recovery very seldom follows osteomalacia,

though the disease may be insidious and very prolonged, making life miserable for a number of years. Occasionally death may occur in a few months.

Treatment.—Strict attention must be paid to the diet, making it most nourishing and of a suitable character. The pure white flour of the present day should be avoided, and only that used which is made from the whole wheat; oat meal is excellent, egg-nog without alcohol, bone soup, etc., should be given in abundance. Hard drinking water should be used. Fresh air in abundance, salt water baths and massage cannot be too highly recommended. The hypophosphites of lime and soda (the sirup is manufactured) may be used, and the gentian tonic will aid in sustaining strength. But the main reliance must be placed upon dietery and hygiene. Women should positively avoid pregnancy.

Caries.—This is a breaking down of the bony structures and an increase in proportion of the soft parts of the bones. There is little tendency toward repair. It is usually a result of scrofulous or syphilitic affections, though it may follow injury.

The *symptoms* are about the same as those described under *ostitis*. An abscess soon forms, through the opening of which the diseased bone may usually be reached. The bones of the fingers or toes or of the spinal column are the ones usually affected by scrofula; while caries from syphilis usually affects the bones of the nose or palate, or leg or cranium.

Treatment must be constitutional as directed for the maladies causing the trouble. Locally, the treatment for *ostitis* must be employed, and the abscesses thoroughly and frequently dressed and cleansed with antiseptics. When possible the diseased portions of the bones must be removed. Recovery depends upon age and strength and the extent and importance of the tissues involved. Rest, nourishing diet and hygienic surroundings are essential.

Necrosis.—This is absolute death of a part or whole of a bone. It is caused by injury or as a result of scrofulous or syphilitic affections. Death may occur to a superficial portion or a central portion of the

bone. The dead structure is bloodless and white, though when exposed to air or surrounded by pus it is black. The living bone usually forms a wall about the necrosed part, completely cutting it off, and it may lie thus for years. Often pus is formed about it, so that the dead particles lie in an abscess. Occasionally a particle of necrosed bone, a result of injury, disappears by absorption.

Symptoms.—These are the symptoms of periostitis and the existence of necrosis can be absolutely determined only by using the probe, though it may be suspected when the pus from an opening during periostitis is thick and yellow, or when an attack of periostitis is very severe or prolonged, or when extensive thickening has taken place in one of the long bones. Occasionally necrosis may occur without any previous history of ostitis or periostitis.

Treatment.—Every means possible should be used calculated to restore the portion of bone threatened with necrosis. Stimulating emetics (see emetics) should be given to cleanse the system and relieve it of the double burden of removing impurities while striving to repair damages. Internally composition should be used freely, and the bowels and kidneys should maintain their functions regularly. Stimulating liniment should be applied. Kerosene bandages have been highly recommended as a preventive of necrosis. When an abscess has formed it must be opened.

When there is every evidence of necrosis, the necrosed portion of bone must be removed, but only after it has been completely separated from the rest of the bone by its own destruction. It may require very many weeks for this to happen. The operation of removing a necrosed bone of any importance should be performed only by a skillful surgeon. If there is considerable prostration while awaiting the time for operation scullcap should be added to the composition. Number Six should be used freely in dressing the open wound. Necrosis from scrofula or syphilis will require appropriate constitutional treatment.

Cancer.—Sarcoma of the bone is usually designated as cancer, and is fully described under cancer in gen-

eral, with appropriate treatment. Removing the affected bone or the portion involved is the only certain means of checking the disease, and it is possible that after successful removal of the bone sarcoma will not reappear, and it may not enter into the system at all.

Syphilitic Disease of the bones may occur in various forms, caries, necrosis, osteitis, periostitis, etc. Frequently during the course of the malady little nodes will appear on the bones, usually deep-seated, or in the cranium; they do but little damage. Ulceration and destruction of bones or portions of bones during syphilis are not uncommon. They of themselves seldom prove fatal, but they leave deformities as a rule, such as a flattened nose, a depressed jaw, etc. The treatment must be according to the character of the difficulty in addition to the treatment for syphilis given elsewhere.

Scrofulous Diseases of the bones are frequent in children, and are of varieties mentioned. The treatment for scrofula is given elsewhere. See also the article on White Swelling.

BOWEL DIFFICULTIES.

Acute Inflammation.

This difficulty is also known as enteritis and acute catarrhal inflammation of the bowels. The whole intestinal tract may be involved or the difficulty may be confined to a limited portion. If it is confined to the rectum it is termed dysentery, and if confined to the colon it is known as colonitis. These varieties of inflammation of the bowels are spoken of in their respective places.

Impure water, improper diet, sudden chilling of the body when hot, and drinking too much iced water are common causes. Using violent cathartics, injuries or worms may sometimes produce serious inflammation.

Symptoms.—There is a sense of distress through the abdomen, increased by pressure. The passages from

the bowels are usually very frequent though small and contain considerable mucus, and are yellow or greenish in color, and in protracted and severe cases become almost clear water. The skin is usually hot and dry and thirst is urgent. But if the upper bowels alone are involved there is usually decided constipation and occasionally nausea and vomiting, and instead of fever, the hands, feet and face may be cold and the abdomen hot. The pulse is small and frequent and there is great prostration, and in children the signs of collapse. In some the abdomen is distended with gas, while in others the abdomen may become hollow and the movements of the intestines plainly visible.

Treatment.—Never give physic in inflammation of the bowels, no matter how obstinate the constipation; rather administer injections of spearmint and boneset infusion. Milk of magnesia may be used if there are irritating substances in the bowels. Administer every hour a tablespoonful of the following infusion: Marsh-mallow root or hollyhock flowers and lady slipper each one-half ounce to a pint of boiling water, to which a teaspoonful of cooking soda may be added. Do not allow cold drinks, but if there is thirst give frequently a swallow or so of cool water in which gum arabic has been dissolved.

If there is diarrhœa neutralizing cordial (see formulas) should be given in small doses every hour. Keep the extremities warm and the head cool and allow plenty of fresh air and absolute quiet. Feed very lightly on thin foods, allow no meats; sea-moss is most excellent. Rubbing cocoanut oil over the abdomen is nourishing and grateful. A return to solid food should be made with great caution.

Chronic Inflammation.

Known also by the term catarrhal enteritis, this disease is usually a sequence of the acute form; or it may occur gradually from derangements of intestinal circulation, or be present during malarial scrofulous or tubercular diseases.

Symptoms.—These may vary considerably during the

months or years involved in chronic inflammation. There is considerable wind on the bowels and occasional colic pains. Emaciation increases along with general weakness. There is headache, indigestion and cold extremities with feeble pulse. The bowels are usually very irregular, often there will be two or three discharges daily of thin material mingled with mucus and possibly streaked with blood and containing shreds, these discharges occurring close together in the morning. Sometimes there is constipation.

Treatment.—For constipation use compound syrup of rhubarb (see formulas). A general soothing tonic should be given three times a day, such as fluid extract of peach leaves and of colombo each one-half ounce, syrup of wild cherry bark seven ounces. Keep the surface at an equable temperature, avoid harsh foods, supply plenty of fresh air and hygienic surroundings with frequent salt water baths.

Invagination or Stoppage of the Bowels.

This difficulty, also known as intussusception, is a condition in which one portion of the intestines is pushed into another portion, causing what is termed “knot of the bowels;” usually the upper portion is pushed into the lower, causing the lower to serve as a sheath. Inflammation sets in quickly, causing the neck to become more and more constricted until it entirely closes. The weight of fæces above presses the upper portion of the intestine still farther downward, sometimes forcing it down into the rectum and even through the anus. The complete constriction interrupts the circulation of blood and may lead to destruction of the parts, causing the invaginated portion of the intestine to become separated and passed from the body—from two inches to ten feet have been known to be thus discharged.

Invagination is most likely to occur at the point where the small intestine enters into the large bowels, situated in the right groin, but it may happen at almost any place. It may be caused by a severe blow, or fall or wrench of the body, by foreign bodies, by constipation or as a result of the weak and relaxed

condition of the bowels caused by protracted diarrhœa or intestinal paralysis. Children are the usual sufferers, though persons of any age are liable, and intestinal tumors may by pressure produce it.

Symptoms.—As a rule intussusception is mistaken at first for colic and constipation, and physics are resorted to, which give no relief and produce stools small in quantity and containing mucus often streaked with blood. The pain becomes intense and there may be convulsions in children. There is great straining and frequent vomiting, sometimes of fæces. The bowels below the invagination being emptied, efforts at stool result in the passage of only mucus and blood, which as the case progresses become very offensive.

The *abdomen* becomes extremely tender to pressure and is swollen and distended, the navel being drawn in. Often the invagination may be felt by pressure as a deep elongated tumor, usually running toward the navel, sometimes across the whole abdomen. Occasionally the anus will be found greatly relaxed and through it the invaginated bowel may possibly be felt. Great exhaustion follows such a condition. The sufferer's *countenance* is pale and pinched and anxious looking; food cannot be retained. The symptoms of *peritonitis* may be manifested and *collapse* precede death a few days after the first pronounced symptoms.

Sometimes without treatment the bowel returns to its normal condition suddenly, giving instant relief, followed by abundant discharges. Occasionally the invaginated portion becomes severed by suppuration and is passed away and recovery follows during the second or third week. The great majority of cases terminate fatally through improper treatment; though probably many more would recover should the real nature of the difficulty be early known; the trouble at first often being mistaken for colic or dysentery or some form of hernia.

Treatment.—Large doses of opium have been usually employed; but such treatment only quiets pain and is vastly more harmful than beneficial and cannot be too

highly condemned. Operation is often resorted to, but with most unsatisfactory results. The object must be to soothe the inflamed bowel, relax the constriction muscles and force the invaginated portion to its proper position. This is best accomplished by injections. The following method of treatment will usually be found efficient:

Make an infusion of spearmint or catnip, boneset, lobelia and pleurisy root, each one-half ounce to four quarts of boiling water; steep for half an hour and strain; thicken a very little with starch and cool to the temperature of the body. Place the patient on the back, the shoulders lower than the buttocks; complete inversion of the body is best though it cannot be endured for a sufficient time. Bend the knees and bring the heels to the buttocks. Use a large sized fountain syringe; keep the infusion at the proper temperature and slowly inject it into the bowels. When there is any desire to expel it turn off the flow and tightly compress the arms, for the fluid must be withheld at all hazards. If by accident it is expelled, wait an hour or so and then commence over again. Five or six hours should be consumed in giving an injection of three or four quarts. When the large bowels are entirely full the fluid will slowly enter the small bowels. The abdomen should be carefully manipulated during the injection.

If injections are successful the relaxation of the structures and the pressure of the food will reduce the invagination, and sudden relief will be experienced. When the tumor felt in the abdomen has disappeared, good results have been accomplished, and the injection may be allowed to pass away slowly. Abundant discharges of offensive material will follow. The tenderness of the bowels will necessitate quiet in a recumbent position for several days, and the general treatment and diet for inflammation of the bowels.

Some practitioners use air injections, but they are not so serviceable. Occasionally, when the invaginated bowel can be felt by the finger in the rectum bougies can be employed to replace it, the patient being inverted during the operation. But the injections

are always preferable. If suppuration has taken place a very little boracic acid (half a drachm) can be added to the injection.

BRAIN DISEASES.

Anaemia. Atrophy. Conjestion. Hypertrophy. inflammation. Softening.

Anaemia.—This means a deficiency of normal blood in the brain, either in quantity or quality. It may be caused by anything which decreases the amount of blood in the system—hemorrhages, etc., or by interruption of the blood current passing to the brain—tumors, heart troubles, etc., or by conditions which impoverish or alter the character of the blood. Exhaustive diarrhœa may also be a cause.

Symptoms.—Fainting and dizziness, accompanied by great paleness and cold extremities and small pulse, are indications of brain anæmia. Those who have permanent anæmia of the brain are subject to spasms of the brain's blood vessels, recognized by coldness over the body, ringing in the ears, a swimming feeling in the head, palpitation, perhaps nausea, and then unconsciousness which may last several minutes or more, or may prove fatal.

Treatment.—Ascertain the cause and remove it, whenever possible. During spells of unconsciousness the patient should be placed on the back with the head low, cold water sprinkled on the face and ammonia or smelling salts placed to the nose. If severe, and death is feared, an injection of ginger in warm water may be given. As soon as consciousness returns administer a stimulant internally. These patients should have an abundance of fresh air and lead a quiet life. The gentian tonic (see formulas) will prove excellent in building up the system.

Atrophy.—This is a shrinking of the brain substance or a deficiency in development. It may result from wasting diseases or injuries, or as a result of old age; often it is congenital—a child being born with one-half or the whole brain deficient in size—in which case

idiocy is present and epilepsy liable. In old age loss of memory and childishness are present with atrophy of the brain. Children who have the limbs remain undeveloped, as is occasionally seen, usually have atrophy of the brain. The disease itself is not fatal, though it renders the afflicted person more liable to diseases. Remedies are of no avail, though in children hygienic measures and careful training may render life more bearable.

Congestion.—This is a sluggishness of circulation through the brain, caused by over eating, anxiety, continued mental strain, etc.

Symptoms.—Sleeplessness, delusions, fear of death, dizziness, feeling of fullness in the head, disturbances of sight and hearing, irregular bowels and attacks of melancholy, or apparent apoplectic symptoms.

Treatment.—The object should be to divert the blood from the head. Have the head high during sleep, frequently bathe the feet in very hot water, relieve the bowels, administer stimulants and nervines, such as ginger and blue cohosh and allow perfect rest. Salicin in five grain doses will sustain the strength. An attack lasts about twelve days.

Hypertrophy.—This is an abnormal enlargement of the brain substance and is usually met with in children born diseased. The head slowly enlarges in length and the eyes become sunken. Convulsions and spells of stupor usually precede death. In adults alcoholism is the most frequent cause, though injuries and diseases may possibly cause it. The bones of the skull being firm the head does not enlarge, and consequently pressure results, producing apoplectic-like attacks, or symptoms of paralysis. Often epileptic seizures occur and cause death. There is no known cause for the difficulty. In elderly persons discontinuance of bad habits may stop further abnormal development.

Inflammation.—Encephalitis or inflammation of the brain, also known as brain fever, is not of frequent occurrence and is rarely met unless as the result of injury, though prolonged mental strain, vene-

rial excesses or over-indulgence in alcoholic liquors may produce it, and it may also be a sequence of scarlet fever or other disease, or of inflammation of the internal ear.

Symptoms.—Sometimes the symptoms are obscure, inflammation progressing until exhaustion causes death, or until epileptiform convulsions declare the seriousness of the condition. Usually, though, the symptoms are well marked and are as follows: First, there is headache and dizziness and vomiting; followed by great weakness, sleeplessness and a highly exalted condition of the nerves of special sense—the eyes are very sensitive, hearing is acute and great irritability upon the least disturbance is manifested. The pulse at first is rapid and strong, the arteries of the neck beating violently. The head is very hot and delirium is often present, and toward death stupor follows. Convulsions are not infrequent. It is a serious malady, usually fatal in from six to twelve days; and those cases which are not lost often are afflicted with paralysis.

Treatment.—Throughout the trouble constipation is persistent, and injections of boneset infusion should be used to evacuate the bowels or senna and ginger may be given internally. An infusion of one ounce each of pleurisy root and lady slipper, and one-fourth ounce lobelia, steeped in one quart of boiling water and strained, may be given in tablespoonful doses every two hours; or by injection to the bowels, one-half pint at a time every three hours. Bathe the feet and limbs in warm water, place a towel wet with vinegar and cold water to the head, rub nervine liniment (see formulas) over the spine, and feed frequently of nourishing, light food, very little at a time. Absolute quietude is imperative. When the disease occurs from fracture of the skull, surgical aid will be found to be necessary.

Softening.—This usually occurs in old persons and may follow injuries, exposure, continued mental exertion or anxiety.

Symptoms.—General or special diminution of power of organs is noticed. Memory becomes deficient, childishness may follow, and partial paralysis is common. Often these symptoms are preceded by reckless ventures in business or the building of high hopes of success upon apparently no basis, efforts in various lines may be made and abandoned as though forgotten. A dwelling upon one line of thought and a lack of consecutive thought. Dizziness, listlessness and a sense of constriction in the head precedes the serious conditions of paralysis and coma.

Treatment.—Slowly developing cases present hope of recovery. Freedom from anxiety and mental exertion are imperative. Perfect rest away from home, amusement and quiet companionship are advisable. Stimulating tonics should be used and plenty of sleep taken. Warmth of the body should be maintained. Tropical life is most beneficial. The hypophosphites are excellent. Alcoholic liquors should be avoided and nourishing food taken in concentrated form. Softening from injury or pressure can offer but little hope.

Tumors.—Cerebral tumors may be caused by blows, falls or other accidental injuries. They may result from disease—such as cancer, tuberculosis or syphilis, or they may be caused by parasites.

Symptoms.—In nearly all cases there is intense and usually constant headache and tenderness at some one point on pressure. Vomiting is frequent, convulsions and paralysis, especially of special organs, may occur. Hearing, seeing and power of speech are usually interfered with, and various other irregularities may occur according to the location of the tumor.

Treatment.—Medication is of no service beyond possibly quieting the system through nervines and regulating the functions of the body as they become deranged. Occasionally operations are performed when the tumor is located at the surface. Quietude and care may prolong life two or more years. Unless caused by disease tumors of the brain do not cause the general health to be apparently interfered with.

Bread Poisoning.—*Ergotism.*—This is a serious difficulty brought about by the eating of bread made from poisoned rye. It is fully considered in the article on Poisons and their Antidotes.

BREAK-BONE FEVER.

Dengue. Acrodynia. Dandy Fever.

This is an epidemic disease common to tropical or semi-tropical countries. It is common in the West Indies and South America and occasionally occurs in the southern portion of the United States. The disease is very seldom fatal, though the severity of its character may so weaken the constitution as to cause poor health ever after.

Symptoms.—There is a period of twelve to twenty-four hours after exposure before the symptoms of the disease manifest themselves, and these commence very suddenly, often during sleep. The skin becomes very hot, the temperature may reach 103°; the pulse 110; the face is red and swollen, the head and joints ache, and it seems as though every bone in the body would break. The suffering is so intense that the countenance bears a look of agony, and prostration is overwhelming. The tongue is white with red edges. Constipation or diarrhœa may be pronounced, and the urine in some cases is scanty and in others abundant and limped. A scarlet rash makes its appearance diffused or in spots over the body and continues from five to twenty hours. After from twelve to seventy-two hours of such fever and pain these symptoms subside and a period of remission follows for one or three days—partial or complete in character. Then comes a relapse of the former symptoms greatly modified in character, often consisting simply of a return or the eruption, which now more closely resembles measles. It continues from one to three days, commencing on the limbs and extending over the body and causing intense itching. It is followed by desquamation or peeling off of the skin in scales. Pain in the joints, small abscesses of the skin and swellings

may occur during the period of convalescence which is protracted.

Treatment.—At the first stage a stimulating emetic (see emetics) should be given; nothing will equal it in efficiency. Follow this by an infusion of ginger, pleurisy root and lady slipper every two hours. Bathe the body with water of a temperature most comfortable to the patient, and rub nervine liniment (see formulas) over the joints. A very mild laxative may be given if the bowels are constipated. After the fever has subsided give, as a strengthening tonic, composition and gentian, either as infusion or made into syrup. A light and nourishing diet, absolute rest and abundance of fresh air and freedom from care and excitement must be provided for many weeks after the attack. Change to a mountainous or northern region is advisable for those whose debility continues any length of time.

Breast Pang.—*Chest Spasm.*—See Angina Pectoris.

Bricklayers' Itch.—The same as Bakers' Itch, only the irritation is caused by lime

BRIGHT'S DISEASE

Chronic Albuminuria.

This is a serious trouble and may approach insidiously and not be recognized until far advanced. The early symptoms—headache, indigestion, impaired vision, etc.—are common to many maladies, so that many symptoms must be taken together to ascertain the certainty of Bright's disease. Some of the most prominent disturbances are as follows:

Symptoms.—Loss of appetite, sometimes amounting to loathing of food, or fondness for an article and then disgust at sight of it. Accumulations of gas in the stomach, causing belching of gas, often violent enough to bring up part of the stomach's contents; there may be also retching and vomiting.

Diarrhœa is frequent, alternating with pronounced constipation. The *skin* is inclined to become very dry, and perspiration seldom occurs; in serious cases there is feverishness and great debility and occasional "creepy" feelings of chilliness over the surface.

Shortness of breath after slight exertion is an early symptom, palpitation is apt to accompany it, and paroxysms may occur at night time, though most frequent during the day. There may be pain in the region of the kidneys, though not always, and as a rule such pain is not experienced until the more severe symptoms, especially dropsy, are developed.

Dropsy of more or less extent is a characteristic symptom, commencing as a rule with puffiness of the eyelids or face and becoming general throughout the body, starting about the ankles and extending upward.

The *pulse* is quick and hard and denotes a nervous and circulator disturbance. Great *paleness* is a most prominent symptom, and persons of middle age who are habitually pale should at once have their urine examined.

The *urine* is lessened in quantity at first, but increases as the affection progresses. Albumen is always present, as may be ascertained by heating a small quantity of urine containing a few drops of nitric acid in a test tube over an alcohol flame, when cloudiness will appear. Microscopical examinations of the urine reveal casts, denoting breaking down of the structures of the kidneys. There is an increasing desire to urinate, especially at night time, accompanied by burning sensations along the urethra. In advanced cases the urine may be hazy or smoky.

Hypertrophy of the heart, with its annoying symptoms, is likely to accompany Bright's disease.

Treatment.—While most cases terminate fatally after months or years of suffering, still life may be prolonged and recovery possibly follow appropriate management. Fresh air, quietude of mind and out-door exercise are beneficial. An equable climate is to be preferred; chilling of the surface must be avoided; tea, coffee, alcoholic drinks, cheese and fats must be

prohibited. Frequent warm baths are useful, and the skin's action may be promoted by pleurisy root infusion. Marsh-mallow root and peach leaves are soothing and promote the flow of urine. The bowels are best kept open by effervescing aperients, and should diarrhœa occur neutralizing cordial will be efficient. Stimulating liniment may be rubbed over the region of the kidneys. All irritating or highly stimulating agents should be avoided.

Acute Bright's Disease.—*Acute Inflammation of the Kidneys.*—This form of Bright's disease may result from injuries, over-exertion, scarlet fever, or diphtheria, or it may follow the use of certain drugs used to act upon the kidneys, such as oil of turpentine, resin, saltpetre, salicylic acid, etc. The excessive use of alcohol is a common cause of renal inflammation and many diseases also favor it.

Symptoms of acute inflammation are pain in the region of the kidneys, vomiting, headache, constipation, paleness and a disposition to dropsical swellings. Uræmia is apt to follow, denoted by dizziness, headache and probably convulsions. The urine contains albumen, which gives a cloudiness when a few drops of nitric acid are added and heat applied.

Treatment consists of soothing diuretics, such as marsh-mallow root and peach leaves in infusion. The bowels must be kept open and a light diet directed—tea, coffee and alcohol must be forbidden. The skin must be kept warm and perspiration favored by hot baths and the drinking of pleurisy root infusion. A vapor bath or Turkish bath is most excellent. Quietude in bed is imperative. Broth, lean meats and milk may be allowed. Cheese, fats and salt foods must be forbidden.

BRONCHIECTASIS.

Dilation of the Bronchi.

This is an enlargement of the bronchi. They may become almost funnel shaped or bulge out at various places. Internally they become uneven and there are

in them accumulations of mucus which may become purulent and ulceration follow. This difficulty is always preceded by some other bronchial trouble, such as bronchial catarrh, capillary bronchitis, etc.

Symptoms.—Apparently, outside of the cough, there is little the matter with the patient. But the cough comes on in severe paroxysms and expectoration is profuse; sometimes a quart of thick mucus will be coughed up in a single day. There may be thick chunks of mucus which sink in water, and also cheesy material may be expectorated possessing a foul odor, and the breath given off from the lungs during coughing is very offensive. The sleep may not be disturbed, but upon rising in the morning a paroxysm of coughing occurs, often so severe as to cause vomiting, and always accompanied by profuse expectoration.

Treatment.—The disease does not present a hopeful condition of affairs. The aim must be to keep the bronchi free from accumulations; to prevent putrefaction and to lessen the amount of the secretion of mucus in the tubes. A most excellent preparation is: Fluid extract of aralia racemosa (spikenard) one ounce, in syrup of wild cherry seven ounces; take a teaspoonful every four hours. Have the patient carry with him eucalyptol and menthol each one-half ounce; place a little on the hand every few hours and placing in front of the nose and mouth inhale deeply. Inhalation of sprays of listerine and tincture of myrrh, greatly diluted with water, will be found serviceable.

The diet should be carefully regulated, and most scrupulous attention paid to sanitary matters. The bowels must be kept open; and an even temperature maintained. When there is evidence that great accumulations of mucus cannot be thrown off, a stimulating emetic (see emetics) should be administered

BRONCHITIS.

Acute Bronchial Catarrh.

This is a catarrhal inflammation of the air passages. One or more of the large tubes may be involved, or it may affect the medium sized tubes of the lungs, or the

very minute tubes may suffer (capillary bronchitis). One portion only, or one side or both sides of the lungs may be the seat of the difficulty, and the character of the disease varies greatly from the symptoms of an ordinary cold to those of a dangerous malady. The causes may be mentioned as cold, damp weather, changeable temperature, chilling of the surface by exposure, especially insufficient protection to the limbs of children and irritating gases or particles in the atmosphere. Bronchitis may also be a consequence of diminished secretions and therefore is likely to occur during the course of several diseases. Irritating medicines may cause it, and some persons are more subject to it than others.

Symptoms.—The most frequent cases involve the large tubes, causing a feeling of tenderness in the middle of the chest accompanied by a tight feeling in the upper part of the lungs. There is always cough, especially upon lying down or early in the morning. Violent coughing spells cause soreness through the muscles of the chest and the sides. At first there is little expectoration, but after a while mucus of a frothy nature is thrown out; this changes to striaggy and tenacious mucus, and sometimes pus or blood may be present. Chunks of mucus, like round balls, may be coughed up, which shows the difficulty is abating and relief will soon come. There may be general feverishness, red and watery eyes and hoarseness. Children may have delirium or convulsions. Constipation, headache and a furred tongue are usually present. The pulse is full and rather frequent in ordinary cases.

Treatment.—The first object must be to increase the action of the skin and divert the circulation outward. Ginger and a little pleurisy root in an infusion are excellent during feverishness. When there is irritation and tenderness and the tubes seem full of mucus a syrup may be made of flax seed, ginger, licorice and spikenard infusion—only a small proportion of spikenard being needed. After free expectoration is secured syrup of wild cherry bark is most excellent.

Hollyhock leaves or marsh-mallow root or slippery elm bark may be used instead of the flax seed which is disagreeable to some. The patient should be kept in an even temperature of about 70° or a little over, and the air not too dry; but avoid too great moisture. Camphorated oil or goose grease may be rubbed over the chest. The bowels must be kept open, and quietude and a light diet provided. Care must be taken against exposure after recovery to avoid return in a serious or chronic form.

Capillary Bronchitis.—This is a serious form of the disease, rarely affecting any but those of feeble constitution or small children or old persons; though occasionally the most robust may succumb. It starts as ordinary bronchitis, but the minute tubes of the lungs become involved, and suffer engorgement from the mass of tenacious mucus which they are unable to throw off. As a consequence the blood does not receive sufficient air, and symptoms characteristic of such a condition soon manifest themselves; they may come on slowly or all at once by a sudden engorgement.

Fever is at first high, but soon diminishes; and the nose and extremities become cold and there is a very pale followed by a livid appearance of the skin and lips. The *pulse* grows very rapid and small, and great listlessness or stupor follows. There is a wheezing or rattling sound in the chest and great difficulty of breathing. The lower part of the chest appears sunken, the shoulders are drawn upward and the head thrown back; the mouth is opened and the sides of the nose are dilated. Breathing is very shallow or gasping, and the mucus may accumulate rapidly; in small children it may fill the mouth after a coughing spell and by its tenaciousness threaten strangulation.

Treatment.—There is no time to be lost in capillary bronchitis—it is always a dangerous condition. Relaxants and demulcents must not be used. Quickly apply stimulation over the lungs;—essence of ginger, cloths rung out of red pepper water or stimulating

liniment must be used freely. Administer, in teaspoonful doses to a child, an infusion of ginger, pleurisy root and spikenard, equal parts.

In desperate cases where there is stupor and coldness an injection of ginger and skull cap should be given, and capsicum may be used instead of ginger in the infusion. The head should be elevated and hot water or hot irons placed to the feet. Children should be carried upright in the arms and should not be allowed to sleep until danger is past, which may be known by the skin assuming a natural color and warmth returning and the breathing becoming natural, otherwise strangulation or suffocation may occur.

An excellent tonic to use for some time after a spell of bronchitis is: Fluid extracts of blue cohosh and golden seal each two drachms in eight ounces of syrup of wild cherry. Dose for a child may be half a teaspoonful every three hours. An adult may use double the quantity.

BRONCHITIS CHRONIC.

Winter Cough. Chronic Bronchial Catarrh.

This difficulty is usually the result of a protracted attack of acute bronchitis or of frequent attacks of that difficulty. It is chiefly confined to elderly persons and is very persistent—recurring with regularity every winter or upon the least exposure to cold. The larger bronchi are chiefly affected, and the disease of itself is rarely fatal, though it may result in emphysema or consumption (which see).

Symptoms.—There is seldom any fever or other general disturbance. A sense of constriction in the chest and a feeling of soreness behind the breast-bone are complained of. Cough is always present; it is paroxysmal in character, mostly occurring soon after retiring and rising. Expectoration is usually abundant, consisting of stringy mucus, sometimes streaked with blood and sometimes containing pus, and as a rule it is difficult to expel. Sometimes there may be almost no expectoration except little lumps like boiled sago,

and there may be great wheezing and difficulty of breathing. This form is known as dry catarrh and is usually suffered by gouty persons or those inhaling irritating particles, such as file-makers, sand-paperers, etc.

Persons having heart trouble, or feeble old people may have a form of bronchitis known as bronchorrhœa, in which the expectoration is profuse, possibly two quarts a day.

Putrid bronchitis may occur, when the expectoration becomes gray or brown and horribly offensive, causing by its odor nausea or vomiting and loss of appetite. As a rule sufferers from chronic bronchitis grow thin and weak from exhaustive coughing. While the disease is seldom fatal, yet the putrid form may cause suppurative fever or a fatal diarrhœa, or destroy portions of the bronchi sufficiently to produce fatal hemorrhage.

Treatment.—The maintenance of the patient's health and the increase of his resistive powers must be the first aim of treatment. An even temperature of about 70° F. is most desirable and every precaution against drafts and sudden changes must be taken. A sustaining diet, a free mind and rest must be provided. Every precaution should be taken against inhaling dust or vapors that are obnoxious. There must be an abundance of pure air and the best of hygienic surroundings. The mountains of North and South Carolina and of Georgia cannot be excelled for such sufferers.

Medication must be made appropriate to the various classes of cases. Persons suffering from dyspepsia, liver troubles or heart difficulties must have such conditions appropriately treated. All cases should wear a flannel over the chest which should be frequently saturated with a liniment composed of fluid extract of black cohosh, one ounce; tincture of lobelia, two ounces; tincture of capsicum, two drachms; alcohol, five ounces.

When the cough is loose and the expectoration abundant a syrup may be used, made of equal parts of spikenard and cramp bark and hops in syrup of tolu.

Where there is irritation and insufficient expectora-

tion mullein leaves, comfrey and spikenard equal parts and a little lobelia may be made into a syrup with licorice.

A most pleasant preparation for old cases may be made as follows: Fluid extract of Mexican sage, four drachms; fluid extract osha root, one ounce; fluid extract hops, two drachms; syrup of licorice, six ounces; dose, a teaspoonful every six hours, or during of paroxysm of coughing.

Purulent Bronchitis.—In this form of chronic bronchitis expectoration is purulent and laden with pus and fatty particles. The treatment must be the same as for chronic bronchitis, only the tendency to absorption of purulent material must be guarded against by the employment of antiseptics, such as compound tincture of myrrh, along with the other medication.

Dry Bronchitis.—In this form of chronic bronchitis, there is little if any expectoration. Old persons are usually the ones affected, and their coughing spells seem to afford no relief, and if not treated properly the serious condition known as emphysema will follow.

Treatment.—In addition to general hygienic, dietary and other precautions mentioned under Chronic Bronchitis there should be administered every two hours, or during a coughing spell: Fluid extract osha root, one ounce; tincture of lobelia, one drachm; syrup of licorice, seven ounces.

Bronchocele.—See article on Goitre.

Broncho-Pneumonia.—*Catarrhal or Lobular Pneumonia.*—See article on Pneumonia.

BRONCHO-STENOSIS.

Constriction of the Bronchi.

This condition may be caused by the pressure of tumors, by foreign bodies entering the lungs, or as the

result of abscess or of inflammation from constitutional disease.

Symptoms.—The most prominent symptom is a feeling of inability to get sufficient breath. Inspiration is very long and expiration short. There may be great pain on inspiration, and the countenance always looks distressed and anxious. Sometimes there is cough accompanied by expectoration. Inflammation of the lungs may follow, causing a swelling and closing of the bronchial tubes. The closure may be so great as to cut off nourishment through blood vessels, and abscesses or gangrene may follow. Some cases may cause early death by suffocation. The difficulty, no matter what is its origin, is always serious: especially so when caused by the presence of foreign bodies.

Treatment.—When constriction of the bronchi is due to the presence of foreign bodies, every effort should be made for their expulsion. Exciting the act of sneezing by the use of snuff or tickling inside the nose by a feather may expel an object. Emetics may be serviceable. Turning the patient upside down and pounding on his back may produce good results. Difficult and painful breathing may often be relieved by tincture of lobelia, two drops on sugar every hour or oftener. The aim must be to ascertain the cause and remove it as quickly. When the trouble follows syphilis it can be relieved only by employing proper treatment for that disease.

Brow Ague.—*Tic Douloureux.*—This is a form of neuralgia associated with pain about the temples and above the orbit. It is described in the article on *Tic Douloureux*.

BRUISES.

Black-and-Blue Condition. Ecchymosis.

These may follow injuries, abscesses, etc. Often where there is paralysis bruises become dangerous by breaking down of tissues into decay. Ecchymosis is the term used to signify the purple or black-and-blue

appearance of the skin so common after injuries. This may be made to disappear, or rather not to appear at all by applications of cold water or cloths saturated with ice water to the parts immediately after injury, such application being constant for hours.

Where there are lacerations or tendency to general congestion warmth should be applied. Compound tincture of myrrh is best when decomposition of tissue is feared. In all cases exclusion from the air by cotton and bandages is advisable. When ecchymosis remains persistently, and it is evident that an accumulation of dark blood is present that will not be absorbed, the spot should be punctured in several places with a thin lance and a dry cup applied to draw away the stagnated blood and witch hazel extract then applied.

BULLÆ.

Cheiro-Pompholyx.

This difficulty is frequently met with in mild form. It is a skin trouble characterized by the formation of little round blisters or vesicles, usually upon the hands or feet. Persons in ill health, or those of a nervous temperament usually are the sufferers. The disease seems to be dependent upon insufficient action of the nervous peripheries of the skin.

Symptoms.—These commence with a burning or itching between the fingers or toes or on their sides, followed in twelve or twenty-four hours by minute rounded vesicles filled with a clear fluid and having no redness about them. They dry up in a few days, leaving a little flat scale. Occasionally, in severe cases, several bullæ run together and they may cover the soles or palms.

Treatment.—Oxide of zinc rubbed up with vaseline and applied every six hours will relieve the itching. The vesicles should not be opened. Nervine tonics (see formulas) should be given, and plenty of fresh air and healthful food supplied. Keep the mind cheerful and provide rest.

Bunions.—See Feet Diseases.

BURNS AND SCALDS.

Blisters. Deep and Destructive Burns. Sloughing.

These are of frequent occurrence and their proper treatment should be familiar to all. The extent of damage done and the tissues involved in the destruction must be considered. There may be only a slight burn or scald, causing simple redness of the skin, resembling erysipelas; nevertheless the pain may be intense. The handiest one of several methods of relief should be adopted. Bathe the parts with lukewarm water containing cooking-soda in abundance, or with witch-hazel extract, or cover the burn with butter, or smear over it a mixture of flour and molasses or honey, or apply dry flour. Vaseline or cod liver oil or sweet oil may be used.

Blisters.—There may be blistering of the skin without the deep skin being involved. Use on the spur of the moment any one of the methods of relief. Afterward prick the blister in several places with a fine needle and let out the water. Soak cotton in a mixture of lime water and linseed oil shaken into an emulsion and apply to the wound and keep in place by bandage or adhesive plaster.

Deep Burns.—There may be injury to the deeper structures of the skin, making a permanent scar probable. After relief by one of the first mentioned methods the wound should be dressed by applying abundantly vaseline containing a little borax and gold-seal, and then covering with cotton.

Destructive Burns.—There may be the complete destruction of the deep layers of the skin and possibly the muscles, followed by a pronounced scar and great deformity. This is a serious condition. Such an accident happening to a child or elderly person may produce sufficient shock to produce death. When there is no loss of sensibility from shock the pain will be of the most agonizing character and liable to produce exhaustion. Take the victim to a quiet, comfortable spot as soon as possible; administer such

stimulents as ginger tea, compound spirits of lavender, or composition in small doses. Loosen and remove all clothing about the injured part as quickly and easily as possible—cut off garments. Make ready the dressings without delay. A good plan is to soak bandages in linseed oil and then smear them with cooking soda and powdered borax. Apply them with the greatest care, for the parts are inconceivably sensitive.

So arrange the dressings that they may remain undisturbed for three or four days. Within two days suppuration commences, accompanied by fever. Infusion of equal parts of lady slipper and ginger given internally will be beneficial. When the bandages become unpleasant from irritation or odor they should be removed with the greatest care and the discharging parts washed very carefully with warm water containing borax. Such dressings should then be performed daily. If the discharge is too abundant and is offensive, add pulverized myrrh.

Sloughing.—A whole limb may be involved, and sloughing of the parts may soon commence and continue two or more weeks even under the best management. Proceed as in the last mentioned form. But in these cases myrrh must be used abundantly, and very small doses of the compound tincture of myrrh should be given internally to guard against "blood poisoning." In dressing such wounds a spray of diluted listerine should be employed.

All extensive burns cause a disturbance of the whole system and require the best of nursing for some time. The diet should be light and nourishing and the utmost quietude and cleanliness maintained. If the extremities should have a tendency to grow cold, hot irons or other articles retaining heat should be placed at the feet. If there is great weakness from exhaustive discharges, give every three hours a capsule containing sulphate of hydrastia and salicin, each one grain, and capsicum one-half grain.

It is possible that complications may arise during the fever stage, and symptoms may point to bronchitis, pneumonia, pleurisy, inflammation or congestion of

the brain, erysipelas, etc. Should such results occur, they must be treated according to rules prescribed for such difficulties.

CACHEXIA.

Degenerate Condition of the Blood.

Very frequently during the course of lingering or malignant diseases, the blood becomes laden with poisonous impurities, and itself undergoes degeneration. The signs of this degeneration soon manifest themselves. There will be an ashy or death-like hue to the countenance and the skin everywhere. Usually the breath will be offensive. Weakness and general indications of departing life will be noticed. This condition of cachexia may occur in cancer, consumption, paralysis, gout, scurvy, etc. As it is a symptom only, treatment must be directed toward the disease with which it is associated.

CACOTROPHIA FOLLICULORUM.

Congenital Skin Disease.

This is a very persistent, though not severe, form of skin disease; usually making its appearance on the arms above the elbows; though other parts of the body may be affected. Small pink pimples and minute and closely adherent scales at the hair follicles, death of the hair at such places and perfectly healthy skin between the diseased follicles, characterize the disease. There is little if any itching, and the trouble extends slowly and yields to treatment with difficulty. It is a congenital disease and is not contagious.

Treatment.—Hot baths in water containing borax and cooking soda should be employed frequently, and after each bath there should be thoroughly rubbed over the affected parts an embrocation made of oil of lobelia, one drachm, mixed thoroughly with one pint

of cocoanut oil. Internally should be administered twice a day the compound syrup of *Stillingia* (see formulas) to which can be added a little fluid extract of gentian. In diet the stimulating foods should be avoided, and those of a nourishing order should be supplied.

Caisson Disease.—*Divers' Paralysis.*—This difficulty is liable to occur to divers immediately or soon after reaching the ordinary atmosphere after being confined in compressed air. There will be dizziness and headache, accompanied by pain and tenderness of the limbs, and frequently partial or complete paralysis of motion and sensation. Persons who thus suffer should at once change their occupation, as treatment is very unsatisfactory and serious consequences may result although most sufferers have frequent attacks and recovery after change of occupation.

CALCIFICATION.

Calcareous Degeneration.

Not infrequently elderly persons or those suffering from disease, especially rheumatism, have certain tissues of the body undergo a degenerate change termed calcification. It consists in very minute particles of lime-like material being deposited in the interstices of bones or muscles, or valves of the heart, or arteries or other tissues, hardening them and causing them to become brittle and liable to rupture or incapable of being used.

The drinking of lime-water or mineral waters may hasten such changes, as also will the eating of vegetables or foods containing earthy material, and all such should be avoided by persons suffering calcification. In nearly all cases a previous disease will demand attention medically. As a means of stopping deposits and of removing further degeneration the drinking abundantly of pure distilled water and of lemonade will prove beneficial.

In a few instances persons suffering from tuberculo-

sis have had destruction of the lungs stopped by deposits of earthy material causing calcification of the lung tissues and thus saving life for many years.

CALCULI (URINARY).

Stone in the Bladder and Kidneys.

Deposits of a mineral character may occur from the urine and form a nucleus for the formation of a stone in the bladder or kidneys. Usually the stone forms in the kidney and passes through the ureter into the bladder, and there increases in size. Occasionally the stone may become fastened in the ureter or in the urethra near the prostate gland. There are several forms of calculi, namely:

Uric Acid.—The most common; smooth and hard, yellow and brown, showing their formation to be in layers by a series of dark and light rings. Sometimes covered with warts.

Mulberry.—*Oxalate of Lime.*—Very dark and warty looking; usually stained with blood.

Phosphates.—*Lime, Ammonium, Magnesium.*—Soft, chalky, scale-like and easily broken.

Cystin.—Dull white, changing by age to gray, yellowish, green or blue; have a wavy look; are extremely rare.

Carbonate of Lime.—Gray or brown; look like balls of earth; very rare, though frequent in cattle.

Indigo.—Seldom seen; of dark blue color and extremely friable.

Xanthin.—Yellow or brown, and bright when broken; are extremely rare.

Symptoms.—These may be at first so slight as to attract no attention. A gritty deposit or an earthy coating in the vessel, may be noticed long before active symptoms commence. Sometimes gravel is passed without any pain or difficulty, or a very small stone may be voided with the urine.

If situated in the kidney, there may be pain in the back, retching and vomiting, blood and sometimes pus in the urine. The intense agony of renal colic is often experienced (see Colic of the Kidneys).

The calculus or gravel may choke up the ureters and cause a retention of urine, which if continued any length of time is exceedingly dangerous, causing absorption of urine and blood poisoning. After retention the urine will often burst forth abundantly, carrying with it a stone or an amount of gravel, and relief will follow. If a stone or gravel becomes lodged in the ureter, it is liable, by the irritation produced, to cause suppuration and consequent perforation, and peritonitis (which see) will follow.

Stone in the Bladder may develop very slowly and may exist for a long time, perhaps years, before any inconvenience is felt. Several symptoms may be prominent, together or singly, such as: Frequent desire to urinate, and occasionally sudden interruption of the flow by the stone getting over the urethral opening of the bladder; children may be troubled with incontinence; there may be considerable mucus, often streaked with blood, and all the signs of catarrh of the bladder (which see).

There is usually dull aching pain through the back, and during urination pain of a rather sharp character runs from the bladder through the perineum, and there is an intense burning sensation at the neck of the bladder and along the urethra, and a smarting at the external opening of the urethra. Riding may jolt the stone about and cause great unpleasantness. There may be dyspepsia and other sympathetic troubles, and prolapsus of the bowel may occur. Occasionally without warning severe and most distressing spasm of the bladder may occur and last for many hours.

The composition of the stone may often be recognized by the character of the sediment of the urine; and a stone in the bladder can usually be recognized by introducing a sound (a metallic instrument resembling a small catheter). It is well to bear in mind that irritation caused by disease of the bladder is recognized as being in the bladder; in irritation caused

by disease of the prostate gland, the perineum or rectum seems to be the point of trouble; while irritation caused by stone in the bladder gives the most acute symptoms as though due to trouble at the external mouth of the urethra or glans of the penis.

Treatment.—in all cases an abundance of pure soft water should be used in the hope of literally washing out the gravel. It is a good thing to drink or sip slowly a pint of hot water (not luke warm) before breakfast and at bed time. Excess of food, especially meats, must be avoided. Rhubarb, tomatoes, spinach, grapes and wines and beer are liable to aggravate most cases. Hard water must not be used. Bathing should be frequent and a free action of the skin maintained and the surface kept warm. Marsh-mallow root, cut into small pieces, or dried hollyhock leaves should be kept in the pocket and particles frequently chewed slowly and swallowed; this will soothe the passages and allay irritation. Strong infusion or fluid extract of couch grass (*triticum repens*) is of especial value. The following will be found unexcelled:

Take Fluid Ext. hydrangea 2 ounces,

“ “ *couch grass (triticum),*

“ “ *hollyhock (Althea Rosea)*

each 1 ounce,

Mucilage of gum Arabic 3 ounces,

Glycerine 1 ounce.

Mix. Take one teaspoonful in water every four hours for three consecutive days.

By this means gravel and small calculi which have been retained for a great length of time, will be expelled. Large stones in the bladder will, of course, not be expelled in this way; they can be removed only by surgical operations, such as crushing them, or cutting into the bladder and extracting them. Citrate of lithia, about three grains in every glass of water taken, will often dissolve some forms of calculi; but it should not be used persistently as the stomach tires of it.

Vichy and lithia spring waters may be used freely

for a month at a time. When spasm of the bladder occurs from the stone getting into the neck of the bladder, the patient should lie down, and drink freely of an infusion of hollyhock leaves and spearmint, containing a very little fluid extract of cramp bark. An injection of lobelia herb and boneset will afford great relief. Should these attacks become frequent, the treatment mentioned for inflammation of the bladder should be pursued.

For the spells of colic and extreme suffering which may occur when the stone or gravel is in the kidneys, the treatment should be as mentioned under the heading of Kidney Diseases—Renal Colic. Should hemorrhage from the kidneys or bladder occur, kino infusion or witch hazel extract should be taken internally, or may be injected into the bladder in severe hemorrhage from that organ. Pain is often relieved by external hot applications. Small calculi of the bladder may be expelled by urinating with the body upside down, easily done with children.

Calculi (Biliary).—See article on Gall-Stones.

CANCER.

Carcinoma. Malignant Tumors.

Cancer, carcinoma and other allied malignant tumors consist of deposits of morbid materials, usually at some gland, forming a mass which becomes degenerate, enlarges with varying degrees of rapidity, usually suppurates, and undermines the constitution and results in death. Women are more especially liable to the disease, and with them the breasts and womb usually are involved. No portion of the body is exempt from cancer, and although those under twenty-five rarely suffer, occasionally even children are afflicted. The change of life in women is the age at which they are most liable.

Predisposition, from hereditary influence, has an influence as a cause of cancer, though the immediate cause of the malignant growth is nearly always local

—such as an injury, a blow or irritation. Decayed or roughened teeth, smoking, irritation of corset blades, or other clothing have been known to start cancerous growths. Often without any apparent local irritation the disease may develop, especially in those whose constitutions have been undermined by improper living—too high or too low—mental worry and nervous strain. Likewise overcrowding the system with gross foods, such as excessive eating of pork, has been an acknowledged source of cancer.

There are several kinds of malignant tumors classified under the general name of Cancer or Carcinoma.

Hard or Scirrhus cancer is the most common form. These commence as small, hard kernels, which enlarge very slowly, perhaps occupying months or years in what is known as the indolent or inactive period. Then follows the malignant period.

The growth softens rapidly and ulcerates, the skin covering it breaks down and an open sore results. The edges are inverted or everted and firm and angry looking; one portion of the sore may be healing while the other is undergoing decomposition. The odor becomes most disgusting in character. There appear to be prolongations or roots running out from the cancer, giving a crab-like appearance, from which it derived its name—cancer being the Latin for crab. The open surface of the sore is usually ashy color and sometimes bleeding.

Strength fails rapidly; the countenance assumes a peculiar hue and cast, and pain is intense and of a gnawing character. Death may ensue quickly or it may be prolonged for many months. This is the form of cancer which usually appears upon the breast.

Soft or Eucephaloid cancer is not common. It develops rapidly and may cause death in a few months. It is soft from the beginning, the surface usually creamy in color and covered by distended veins. It is liable to hemorrhage, ulcerates in a few weeks after its commencement, and as a rule is very painful. This is the form of cancer to which young people are most liable. It may develop upon any part of the

body and involve any class of tissues. Cancer of internal organs is usually of this character.

Colloid or Alveolar cancers have an apparent jelly-like consistence. They are frequent in the ovaries, salivary glands and breasts, and have by some been considered not of a carcinomatous nature.

Epithelial or Squamous cancer, known also as *epithelioma*, is the least malignant form of cancer. It commences as a dry wart on the surface, usually on the cheek or lower lip. This soon forms a pustule and develops very slowly, rarely enlarging to over an inch in diameter, occasionally growing large and sometimes covering a period of eight or ten years in its development. It usually occurs where the skin and mucous membrane meet; and the lips and lower eyelids are favorite localities. Secondary cancers may follow elsewhere in the body, or death may be the result of exhaustion.

Melanotic cancer, or *melanosis*, is extremely rare. Its characteristic is its dark brown or black appearance. Sometimes the whole surface of the body or large spots upon it become entirely black. It may likewise be confined to a single warty growth resembling a blackberry.

Osteoid cancer usually commences in the bone, though the developed tumor may contain bony substance.

Villous cancer is the term used to designate cancer in the mucous membrane covered with a velvet-like growth. It not infrequently occurs in the bladder or inside the cheek.

General Treatment of Cancer.

Treatment has usually been found very ineffectual, beyond general relief and retarding of death, which seems inevitable. Early (very early) removal by the knife has been the usual method. Constitutional treatment must be employed. The compound syrup of yellow dock (see formulas) is most excellent. Locally,

when the sore is opened, a salve compound of solid extract of red clover and a very little each of sulphate of hydrastia and boracic acid rubbed into vaseline will be found serviceable. Thorough cleanliness, nourishing diet, regular habits and plenty of fresh air should be provided for every cancer sufferer. Hemorrhage of the surface can usually be controlled by applications of very hot water, or by perchloride of iron.

Cancer of the Stomach.—This affliction is most frequent in men, caused by blows over the stomach, excesses in eating or drinking, use of alcohol, hereditary predisposition or long continued nervous strain or mental anxiety.

Symptoms.—The first symptoms are those of simple indigestion. These continue persistently for perhaps several months and then there are experienced sharp, cutting pains, extending to the back and loins. Two or three hours after eating there arise great pain and nausea in the stomach, followed by vomiting. This may occur sooner after eating if the cancer is near the opening of the gullet into the stomach. Or if it is situated elsewhere in the stomach the vomiting may be delayed. There is great tenderness upon pressure, and usually the tumor may be distinctly felt, often lower than one would suppose the stomach to be situated, that organ being usually enlarged when affected with cancer. As a rule small quantities of brownish blood, looking like coffee grounds, are vomited.

Constipation, great thirst and sleeplessness are usual symptoms. Frequently the symptoms subside for brief periods. The distress after eating increases, and to such an extent that the patient is liable to starve to death from inability to retain nourishment.

Treatment.—A perfect cure cannot be hoped for. Foods of the mildest and most nourishing character consistent with their mildness must be relied upon—such as beef tea, malted milk, ordinary milk or whey are excellent; mutton broth, veal broth, soft gelatin and farinaceous foods in general are usually accept-

able. When the stomach refuses food, strength may be sustained by injections of barley water, etc. Medicinal treatment must be as laid down for ulceration of the stomach (which see), in addition to compound syrup of yellow dock as an alterative. Operation for removal of the cancer is sometimes resorted to, but it is an unwarranted torture to inflict upon a dying person.

Cancer of the Womb.—This disease seldom appears until after the change of life in women, between the ages of forty and fifty years. It usually attacks the mouth of the womb; but it may be the result of an internal tumor or polypus. As a rule this form of cancer proves rapidly fatal, especially in the young; although in some persons it may exist for years before death.

It has been the author's experience to examine and treat and permanently cure many cases pronounced as cancer of the womb by prominent physicians, which proved to be maladies of an entirely different nature, entirely amenable to thorough treatment. Women should not submit themselves to operations and treatment for cancer of the womb unless that disease has been positively proven to exist.

Symptoms.—Usually profuse flooding, followed by the "whites," which discharge in time becomes offensive and of a greenish color. There are dragging and bearing down sensations, and pain through the back, loins and lower part of the abdomen, becoming excruciating as the disease progresses. Exhaustion soon follows, aggravated by frequent hemorrhages and persistent vomiting. The odor from the cancer becomes intolerable, and the growth may extend into the bladder or rectum.

The general *treatment* laid down for cancer must be followed. Injections of thymol solution should be used for cleansing the womb and vagina. Cutting out of the womb in the early stages of cancer affords the only hope of recovery. A diet of nourishing food, easily digested, and an abundance of fresh milk and

pure air and pleasant surroundings must be provided. See section on Diseases of Women.

CANKER OF THE MOUTH.

Ulcerated Sore Mouth. Cancrum Oris.

This is a dangerous ulceration of the insides of the cheeks and the lips. It is confined almost exclusively to children under eight years of age and to those of scrofulous tendencies or feeble constitutions. Bad air, damp sleeping rooms, poor or insufficient food, etc., may be named as causes.

Symptoms.—The gums become red and the cheeks somewhat swollen. Inside the mouth small gray, sloughy ulcers make their appearance. In severe cases these slowly extend and become ashy and then brown, and the breath becomes offensive. The appetite fails and the strength sinks rapidly. Sometimes the whole cheek is involved; outside being hard and swollen and white with a red spot, and inside being a foul ulcer, discharging profusely—at first painful and tender and afterwards sloughing away. As a rule, children experience little suffering, the poison blunting sensibility and causing a stupor, which precedes death. Mild cases offer hope for recovery.

Treatment.—Constitutional treatment is a necessity. A stimulating emetic (see emetics) should be given early and repeated every three days. Every three hours a teaspoonful of an infusion of composition and golden seal should be given. The mouth should be washed out every hour with peroxide of hydrogen, one ounce; tincture of myrrh, one drachm; water, three ounces. A spray may be found useful. This wash should be alternated every hour with a strong infusion of composition containing a few drops of compound tincture of myrrh.

Give a luke-warm sponge bath every day, putting salt in the water (sea salt is best) and using friction. Alterative syrup (see formulas) should be given to those of scrofulous tendency. Give most nourishing food. Broths are excellent. Provide cleanliness and abundance of fresh air.

Capillary Bronchitis.—Fully described in the article on Acute Bronchitis.

CARBUNCLE.

Carbunculus. Anthrax.

This is a destruction of the skin and the tissues directly beneath. It resembles a boil, only it is more extensive, and has a number of "cores," and produces severe constitutional symptoms. Carbuncles are most common to elderly or feeble persons. Their favorite localities are the nape of the neck, the buttocks and the outsides of the limbs; though occasionally they occur on the face. When they appear upon aged persons suffering from kidney trouble they are of grave significance.

Symptoms.—At first there is experienced a soreness over the part where the carbuncle is forming; slight swelling is noticed and the skin becomes red or purple; a burning sensation, turning to severe pain, is experienced, and general feverishness usually sets in. Soon there is local throbbing and several points begin to suppurate, first giving a gum-like discharge, soon turning to pus. These several points of suppuration run together, making one large and open ulcerated surface. Meanwhile pus is liable to be absorbed and symptoms of blood poisoning manifest themselves.

After five or eight days or more, the carbuncle presents an ashy appearance, surrounded by angry or purple edges. The whole suppurated mass is gradually discharged, leaving a cavity which heals over slowly and leaves an ugly scar. Occasionally more than one carbuncle may appear on the body at one time. The constitutional symptoms are then apt to be more grave. Sometimes when one carbuncle disappears another may commence at some other place.

Treatment.—At the start poultice the spot with flax-seed sprinkled over with goldenseal. When the points of suppuration first manifest themselves, make two cross-like incisions across the carbuncle with a lance, cut deeply, and then apply a poultice as before,

only mix with it a little powdered myrrh and glycerine. Apply around the edges compound tincture of myrrh. Change these poultices every four hours, always washing out the ulcerated surface with extract of witch hazel, one ounce; borax, one drachm; warm water, one pint. A small syringe should be used; the stream will wash away accumulations. While suppuration lasts these poultices should be constantly applied. When the cavity is emptied the following method should be adopted: Saturate absorbent cotton with a mixture of extract of witch hazel, one ounce; fluid extract of golden seal and tincture of myrrh, each one-half ounce; borax, twenty grains; rose water, one-half pint, and fill the cavity with it and apply around the edges compound tincture of myrrh. Place a large piece of cotton over all and keep in place by strips of adhesive plaster. Change at least every six hours, except at night. Sustain the patient by light and nourishing diet and a tonic of gentian compound (see formulas) every three hours. During restlessness, present with the pain, an infusion of equal parts of lady slipper and camomile will be found useful, given every hour. During convalescence the alterative syrup (see formulas) should be administered.

Carcinoma.—*Malignant Tumors.*—See Cancer.

Cardiac Affections.—See Diseases of the Heart.

Cardialgia.—*Heartburn.*—This affection is caused entirely by indigestion; and the palpitations of the heart and burning sensations in that region often lead many to suspect heart troubles, hence its common name. It is fully described in the article on Heartburn.

Carnification.—*Pulmonary Collapse.*—This is a condition of the lungs caused by obstructions hindering pure air from reaching the air cells in sufficient quantities. It is more fully spoken of under Atelectasis and Capillary Bronchitis.

CASTRATION.

Emasculation. Alteration.

This is the operation for removal of the testicles, and should never be resorted to unless there exists an incurable disease of the parts. The skin, from the abdominal ring to the end of the scrotum, is cut open by a scalpel. The cord is pulled down and tied, likewise the blood vessels; the testicle is exposed and easily removed by severing the cord and vessels about half an inch below where they are tied. The wound should be cleansed with boracic acid solution and the incision stitched; and all properly dressed. The removal of both testicles, though unwarranted, is occasionally resorted to as a means of overcoming abnormal sexual passion.

Eunuchs, so frequent in oriental countries, are castrated males, frequently employed as guards to women. The removal of the testicles, of course, destroys capacity for procreation. Those who have been castrated slowly change in their physical characteristics. Their voice becomes more effeminate and their bodies, as a rule, fatten easily; and their dispositions become more docile, and energy is diminished. Otherwise they suffer in no special manner, and their lives are not shortened by the operation.

CATALEPSY.

Death-like Rigidity of the Body.

This is a peculiar condition during which the muscles of the body become rigid and the whole body corpse-like; sensation is generally lost, respiration is very feeble and the pulse extremely soft, at times almost imperceptible. An attack of catalepsy may come on without warning and may last from a few minutes to two weeks. Sometimes there is complete loss of consciousness, though in other cases the patient is entirely conscious of what is going on, but unable to give expression of sensibility. The limbs usually remain fixed in the position last assumed, or in any position they may be placed, no matter how em-

barrassing. The joints are as readily movable as though they were artificial.

Catalepsy is usually a symptom of functional brain trouble, and may occur with hysteria, St. Vitus' dance or insanity, or may occur during the course of typhoid or other prostrating fevers when the brain becomes involved. Likewise the influence of anæsthetics upon the brain may cause catalepsy. It can be treated only by ascertaining the particular difficulty of which it is symptomatic. When catalepsy is prolonged, food should be administered by injections to the rectum, such as broths, barley-water, etc.; and coeanut oil should be rubbed over the abdomen.

Cataract.—See section upon Diseases of the Eye.

CATARRH—ACUTE.

Coryza. Cold in the Head.

This is a trifling and well known difficulty, and may usually be traced to some imprudency or exposure to cold which closes the pores of the skin, not allowing free outward circulation, and consequently crowding blood on the mucous membrane, which becomes irritated. The *symptoms* are sneezing and watery discharge from the nose. Sometimes the nose becomes choked, necessitating breathing through the mouth and causing dryness. In infants this seriously interferes with nursing and they should at such times be nourished by the spoon.

The discharge from the nose may be watery for awhile, and then become offensive; scabs of dried mucus may form inside the nostril and they may become degenerate (see Ozæna). The discharge may be so abundant as to fall back into the stomach, causing nausea. Infants may even strangle by mucus falling into the wind-pipe when asleep; they should at such times be placed upon the side. The bronchial tubes may become inflamed after a neglected case of simple nasal catarrh.

Treatment.—The difficulty rarely lasts over a week at the most, even if unattended to. Usually staying

in-doors in an equable temperature, keeping the bowels open and eating lightly will be all sufficient. Favoring outward circulation is beneficial; this is accomplished by drinking hot lemonade with a little ginger essence in it. Sage or spearmint teas are favorites with many. Cocoanut oil or goose grease rubbed over and above the bridge of the nose will loosen out the mucus.

If the discharge becomes offensive and abundant, a snuff may be used composed of golden seal and wild cherry bark, equal parts, to which is added a little powdered borax. When the throat and bronchial tubes become irritated during acute catarrh, equal parts of syrup of wild cherry and syrup of licorice will be found most excellent taken internally three or four times a day.

CATARRH—CHRONIC.

Ozoena. Purulent Nasal Catarrh.

There are many causes for the condition known as chronic catarrh; constitutional diseases or predisposition, unfavorable climate, frequent exposures, occupations necessitating the inhalations of dust or irritating gases, neglected or protracted acute catarrh, etc. There are varying degrees of the difficulty, some have a continuous and abundant discharge of glary mucus, which is prone to degenerate and become offensive, known as moist catarrh; others have little if any discharge beyond stringy and offensive shreds. The mucous membrane becomes red and swollen, the sense of smell and sometimes that of taste, becomes impaired. Ulceration may follow and the small bones of the nose may decay, causing the disgusting form of catarrh known as ozæna. Occasionally calcareous deposits, with the dried mucus, form hard, stone-like scales in the nostrils, known as *rhinoliths*. Catarrh is technically spoken of as *rhinitis catarrhalis*, and the abundant discharge of purulent mucus is termed *rhinorrhœa*.

Treatment.—Ascertain the cause and direct treatment accordingly. Harmful pursuits should be dis-

continued; constitutional difficulties should be overcome if possible, and in all cases proper environments should be provided. Nourishing food, fresh air and healthful exercise are necessities. Compound Syrup of *Stillingia* (see formulas) should be given whenever the disease is protracted and ulceration or ozœna is present. Salt water baths are most advisable. Douches should not be used; they may cause diseases of the eustachian tube or middle ear. By the atomizer or spray is an excellent way of administering agents.

For purulent catarrh use twice daily a spray of the following: Ten grains of borax and one drachm of tincture of calendula in two ounces of water. For ozœne, use one ounce of peroxide of hydrogen to three of water with a drachm of listerine. A snuff of golden seal and bayberry, equal parts, and borax one-half part, should be used frequently in moist catarrh. Should the stomach be involved by purulent mucus dropping into it from the back of the nose, emetics may be needed, and occasionally a few drops of tincture of myrrh.

Catarrh Epidemic.—See article on Grippe.

Catarrhal Fever.—See article on Influenza.

Catarrh of Special Organs.—Very frequently there will be met catarrhal conditions associated with diseases of special organs. These are all inflammations of the mucus membranes either acute or chronic in form. There may be catarrh of the stomach, or bowels or intestines or bladder, each with its peculiar characteristic. These are fully mentioned and treated of in the articles devoted to diseases of those organs.

Cellulitis.—An inflammation of the cellular structures. Treated of in the article on Erysipelas.

Cephalalgia.—See article on Headache.

Cerebral Abscess.—See Brain Diseases.

CEREBRAL HEMORRHAGE.

Extravasation of Blood in the Brain.

This is an extravasation of blood between the membranes of the brain and the brain itself, or the cranium. The causes are extreme heat, excessive muscular or mental exertion, excessive indulgence in venery or alcoholic liquors, and weakness of infancy or old age. The symptoms are profound stupor coming on suddenly, after a short spell of dizziness, headache and convulsions. Before death there may be complete insensibility, involuntary discharges from the bowels and bladder and sometimes general convulsions.

Treatment is usually of no avail and death follows in a few hours or days.

Cerebral Hernia.—See Head, Injuries to.

Cerebritis.—See Brain Inflammation.

Cerebro-Spinal Fever.—*Meningitis.*—See Spotted Fever.

Chancre, Chancroid.—See Diseases of the Generative Organs.

Charcot's Disease.—This is a disease of the joints in which the articular extremities wear away. There are at first cutting pains of short duration; followed by swelling of the limbs near the joints, and spontaneous dislocations and great liability to fracture. There may also be loss of muscular control, as in locomotor ataxia.

CHELOID.

Scleroderma. Keloid.

This is a growth of fibrous tissues of the skin at some one spot, usually, though not always, occurring where there has been a scar from a burn or injury.

Though keloid resembles in many respects a simple scar, it is an entirely different difficulty.

Symptoms.—A keloid is a smooth and rounded tumor of very small size, growing very slowly on the chest, breasts, sides, back and other parts of the body; rarely at first being larger than a grain of wheat, and in the course of months or years spreading slowly, usually sending out branches, giving a crab-like or star appearance. It is very tender to the touch and often itches and tingles, though not otherwise painful. They are white, flesh-colored or pink and contain minute blood vessels plainly visible in old cases. They rise above the surface of the skin not over one-eighth of an inch, and are never scaly and never suppurate, and do not impair the health. Usually more than one keloid develops upon the body.

Treatment.—Never cut or burn them out, they will only return larger than ever. It is best to endeavor to harden them by applying a salve made of one drachm of tannic acid rubbed into one ounce of vaseline. When they are extremely sensitive tincture of calendula will allay the itching and tingling sensation.

CHEST INJURIES.

Penetration of the Lungs and Heart.

External injuries of the chest, such as cuts and bruises of the skin and muscles, have no particular characteristics to distinguish them from similar injuries elsewhere. But deeper injuries are not infrequent and should be recognized.

Penetration of the lung by instruments, etc., may be thus distinguished: There will be cough and frothy and bloody expectoration, along with pleurisy pains, and an escape of air through the wound, often mingled with frothy blood. This is soon followed by water in the lungs or pneumonia and an inability to force out the air readily. Such wounds are always serious, but if the patient survives ten days after the injury there is ground for hope.

Treatment must include perfect quiet and binding of the chest in a fixed position. Antiseptics must be used abundantly and all stimulation avoided. There is less danger from collapse than there is from hemorrhage arising after stimulation. Food must be of the lightest class.

When the *heart* or its covering (pericardium) is injured, it will be readily known by the location of the wound and the great difficulty of breathing and agony of the patient and his own knowledge of his heart's disturbance. These cases are not always fatal. Treat as penetration of the lungs. Persons who die instantly from heart wound either jump in the air or fall suddenly with a shriek when the heart is pierced.

CHICKEN-POX.

Varicella.

This is a disease confined almost exclusively to children, and although it causes considerable annoyance, and may become epidemic, it is a simple malady and of itself is never fatal. It is strange that this disease which is so easily distinguishable should be mistaken for anything else; but often have blundering physicians declared it to be small-pox, and thus spread consternation through communities till the mistake was discovered. Also the same class of incompetents have time and again declared a genuine case of small-pox to be "nothing but chicken-pox," and the result of their blunders can be imagined. There is no excuse whatever for such gross carelessness or ignorance being manifested in diagnosis. It does not need a medical man to discern small-pox from chicken-pox—they are so widely different.

Symptoms.—The disease is the result of exposure, it being contagious, and it commences to manifest itself on the fourth or fifth day after exposure. There is seldom any chill at the outset, and although a slight fever may arise, with a corresponding increased frequency of the pulse, yet this is seldom the case unless the stomach is deranged at the same time, when there

will also be a white furred tongue and an irritated feeling of nausea.

Usually the first indication of chicken-pox is the eruption. This appears as minute round pimples, coming first on the forehead and then on the face, and occasionally over the arms and body. The day after their appearance these pimples fill with a transparent or milky fluid which makes them look like little "water-blisters." They are round and full and are never indented or yellow like small-pox pustules. Besides, they are manifestly superficial and not deep-seated at all.

There may be two or three sets of pimples on the body at the same time—some just starting as others disappear. Thus the eruption may last a week, though four days is the usual time for any set of "pimples" to fill and dry up and drop off. Occasionally several of the vesicles may run together, and the surrounding tissues may look angry.

Treatment.—If no complications arise, such as may be occasioned by cold, improper diet or carelessness, no special treatment is necessary in chicken-pox beyond a light diet and the maintenance of even warmth till the eruption and the yellow spotted appearance following it have disappeared. The bowels should be kept open—milk of magnesia being excellent for this purpose. If the stomach is deranged use neutralizing cordial (see formulas). An infusion of scullcap, one ounce, and boiling water, one pint, may be used in tablespoonful doses if there is much nervousness; and pleurisy root, one-half ounce, may be added if the skin is too hot. For itching, bathe the surface with hot water containing borax or some cooking soda or tincture of lobelia, one ounce, in witch hazel extract, seven ounces. The pimples do not eat into the skin like small-pox; nevertheless by scratching them they may become irritated and pus may form and a scar result. It is well, with small children, to put little perforated pieces of court plaster over the larger and more angry pimples of the face to hinder their being picked at for relief. If they appear on the body, the clothing should be loose to avoid too much irritation.

CHILBLAINS.

Congestion from Frost Bites.

From being frost bitten or exposed to great cold and then suddenly warmed, or by being suddenly exposed to cold when hot, the skin suffers what is known as chilblains—usually mentioned as a trouble of the feet. There is great itching and burning and extreme tenderness. The parts become swollen and red, or purple, and in severe cases suppuration or gangrene may follow.

Treatment.—As a precaution against chilblains never suddenly warm cold feet, and if frost bite is suspected, rub them briskly with snow or cloths soaked in cold water. After the feet have become accustomed to ordinary temperature, a stimulating liniment may be applied. Chilblains are usually persistent and may annoy a person for years. Many apply petroleum bandages for a cure, but the most efficient remedy is the compound tincture of myrrh (No. 6). This may be rubbed on night and morning. The tincture of calendula will be found very serviceable in giving temporary relief at times of severe painfulness.

CHILD-BED FEVER.

Puerperal Fever. Puerperal Peritonitis.

This difficulty is frequently met with, and when it occurs it is of the gravest importance. As the name infers it is a disease peculiar to child-bed. Its most common cause is the use of instruments in delivery, though sudden fright or great nervous excitement, over-exertion or injudiciousness in various ways soon after or during delivery may cause the trouble. It is an inflammation of the peritoneum, or membranous fold over the bowels and other organs; and this inflammation may extend to those organs, especially the womb. It is often spoken of as puerperal septicæmia, as it is contagious; that is, it can be conveyed to other women during delivery by the hands of a nurse or physician, or by the presence of other women suffering from it—as in a hospital. Some authors give the name of

puerperal fever to a slow form of fever seldom met with. But the puerperal or child-bed fever here referred to is that usually known by the name. It may occur any time within two weeks after delivery, though usually between the third and seventh day, and unless promptly attended to it is liable to prove fatal.

Symptoms.—These usually commence suddenly in the form of a distinct chill of varying intensity, from a mere shivering to a violent shake. This is quickly followed by a rise in temperature. The pulse becomes frequent, 100 to 110 per minute (occasionally of normal frequency) and is full and hard, though it becomes small and thready in very severe cases. The countenance becomes pinched and there is a look of agony and great restlessness. The tongue at first is covered with moist fur, which becomes white and brown and dry with red edges. There may be sallowness and sometimes perspiration. The flow of milk ceases, as does also the discharge (lochia) as a rule, though it may continue and be very offensive. The bowels are at first constipated, and in severe cases may develop diarrhœa and involuntary discharges. There may be purple spots on the face, chest and thighs. There is usually vomiting and the abdomen swells rapidly and becomes enormous and tender, the least movement or noise of others causing severe pain. The patient lies on her back with the knees drawn up. There is headache and often delirium. Very sudden cessation of pain is unfavorable. Sleeplessness and loss of appetite are invariable.

Treatment.—This difficulty should be strictly guarded against. Great cleanliness, quiet and hygienic surroundings should always be provided for lying-in women. The treatment of child-bed fever should commence as soon as the first symptoms manifest themselves; delay is almost necessarily fatal. When the chill comes, place hot irons to the feet and administer three drops of No. 6 in hot water every fifteen minutes. When the fever commences and continues give frequently a strong infusion of pleurisy root and

ginger, containing a little tincture of myrrh and tincture of lobelia. If there is constipation give an injection of boneset containing a little ginger. If the abdomen is greatly distended place over it a hot fomentation of smartweed and mullein leaves, or cloths rung out of hot vinegar and red pepper, or some stimulating liniment. If diarrhœa is present and involuntary discharges occur, give injections of composition infusion containing tincture of myrrh. If the discharge from the womb is offensive use a vaginal injection of borax water and tincture of myrrh. Enjoin perfect quiet; and when the severe symptoms and dangers are past, use composition and scull cap infusion until recovery is perfect. Allow plenty of water, though not too cold. Feed light and nourishing diet.

CHLOASMA UTERINUM.

Moth Spots.

This is a trifling difficulty in which the pigment or coloring matter of the skin in some portions, usually on the forehead, increases abnormally, giving light brown or yellow spots just below the hair on the forehead. They are usually crescent shaped. They are indicative of uterine (womb) difficulty and are not infrequently met with in pregnant women, and disappear after delivery. They are not annoying beyond being unsightly. The only sure way to cause their disappearance when caused by womb trouble is to remove the cause. They may often be lightened in color by applying a lotion made of five grains of salicylic acid in an ounce each of ammonia and witch hazel extract.

CHLOROSIS.

Green Sickness. Anaemia of Puberty.

This is a peculiar condition of the system, involving an unnatural condition of the blood, to which females are liable, especially immediately after puberty and

before twenty-five years of age. A scrofulous predisposition or a tendency toward consumption may be a cause, though it often occurs when no such conditions are present. Most frequently in young girls too much study or an enervating life, or poor surroundings and unsuitable food may be the cause. Mental anxiety, exhausting occupation or disappointments, especially in love affairs, may induce it in many.

Symptoms.—These manifest themselves slowly and are numerous, and those mentioned may not all be observed. They are: General languor, lack of interest in ordinary affairs, desire to sleep, capricious appetite for unusual things—slate pencils, vinegar, etc.; dyspepsia, palpitation and shortness of breath, offensive breath, tongue white, inside of mouth pale, heart weak, voice feeble. Hands and feet usually cold. Perhaps puffiness of the eyelids and swelling of the feet. The body is usually plump except in very protracted cases. The face is pale and gradually becomes sallow and assumes a greenish hue. There may be neuralgic pains in various localities, sometimes headache and occasionally extreme nervousness and hysterics. The bowels are constipated, the urine pale and abundant and the menses checked as a rule.

Treatment.—Change of habits and surroundings, abundance of fresh air, moderate exercise at pleasant duties, rest from study or mental labor, congenial companionship, a most nourishing diet of easily digested foods. Salt water baths with plenty of rubbing, and very comfortable clothing should be provided. Get the bowels moving by liver pills and then give each night a gentle laxative such as fig syrup (see formulas). A tonic may be prepared as follows and taken to advantage:

Take Scullcap herb.....one ounce.
Blue Cohosh.....one ounce.
Golden Seal.....one-half ounce.
Coriander Seed.....“ “ “
Orange peel.....one-fourth ounce.

Mix and steep in one quart of water, strain and add two

pounds of sugar and two ounces of glycerine. Dose, two teaspoonfuls after each meal.

Chlorosis is never of itself fatal, but unless attended to properly, may continue for years and lay the foundation for the ravages of fatal constitutional disease.

CHOKING.

Obstruction in the Windpipe.

This is an accident that not infrequently happens, and calls for immediate action. It usually is caused by the swallowing of objects too large for the throat, which lodge in the gullet and obstruct the windpipe by pressure. The swallowing of bones or other sharp substances may also cause choking; and, again, substances may directly enter the windpipe—such cases are the most serious.

Treatment.—Of course the first endeavor should be to remove the offending substance. Meat or large and soft substances may be shoved into the stomach or extracted from the throat by means of a probang. If the case is that of a child, turn it upside down and slap on the shoulders. Adults may be similarly treated if the assistants are strong enough. Fish bones, which are fine, if they cannot be extracted by a pair of forceps, may be forced downward by administering the white of an egg, not beaten. When a substance is lodged in the windpipe itself, turning upside down is always the best procedure.

CHOLERA.

Asiatic Cholera. Malignant Cholera.

There are certain portions of Asia where cholera is epidemic the year round, and from such regions it often disseminates by air or water or by individuals to various other localities over the world. The chief source of contagion seems to lie in the material evacuated from the bowels of cholera sufferers. This material drying in the air may fill the atmosphere with

the poisonous germs. It may permeate the soil and find its way into drinking water, such as that of wells or streams. These facts demonstrate that the greatest precautions must be taken during cholera epidemics by the general public.

No danger exists in nursing cholera patients provided it is rendered impossible for the poisonous germs of the evacuated material to enter the mouth. All evacuations should be made into a vessel containing lime and should be quickly covered and conveyed to some pit a distance from possible contamination with drinking water and then buried with chloride of lime thrown in. An almost infinitesimal portion of the germ poison will contaminate an enormous amount of water.

Symptoms.—These develop in from twelve hours to two weeks, usually within a week after exposure. They may be divided into three stages:

1. *Stage of Diarrhœa.*—A profuse diarrhœa of watery material starts suddenly, with some pain in the bowels and a feeling of peculiar weakness in the pit of the stomach. There is no fever and the tongue is broad and coated white. This diarrhœa may continue three or four days in this way or may at once develop more alarming symptoms. There is vomiting of food and mucus, often very painful, great thirst sets in, there are rumblings through the bowels, discharges become thin, like rice-water and involuntary, cramps commence in the calves of the legs and extend to other muscles. Prostration becomes great and the patient sinks rapidly, the pulse growing feeble and frequent and the extremities cold, and the countenance anxious and pinched. Thus is ushered in the second stage.

2. *Collapse.*—Sometimes this may commence almost as soon as the diarrhœa and prove rapidly fatal. Vomiting and purging diminish, the urine is not evacuated; there are continued cramps and painful efforts at vomiting, buzzing sounds in the ears, headache and almost loss of voice; it becoming weak and husky. The face becomes terribly pinched, the extremities cold and blue, and dark rings appear under the eyes

which, themselves, are sunken and the conjunctiva becomes dry. The muscles seem to lose all power and may be felt as flacid dough, and the skin like wet chamois skin and wrinkled. Breathing is shallow and the pulse gradually disappears. The patient may be restless and conscious or lie in a seeming stupor, indifferent to his surroundings and develop profound stupor. Such symptoms may extend over two or three days, but in most cases they last but a few hours.

3. *Reaction.*—The symptoms of collapse may gradually subside and normal action be restored. Breathing and heart actions become more natural, the temperature rises and strength returns. Often this period may seem fairly established when retention of urine, intestinal irritation or typhoid condition may cause death. Convalescence is always slow and liable to be interrupted. Probably not more than thirty per cent recover from the period of collapse.

Treatment.—Very few of those who are attacked with cholera need enter into the period of collapse, and there is no necessity for strong, healthy persons of temperate habits and will power to succumb. Worry and fear cause liability of an attack during an epidemic. Cleanliness, fresh air, freedom from worry, refreshing sleep, and wholesome diet of pure food and pure drink are foes of cholera.

It is unwise during an epidemic to change the habits of natural living to those of a restricted diet. Fresh and ripe, not over-ripe, fruits and vegetables, may be eaten freely with safety. Alcoholic liquors cannot be taken, even moderately, without danger, and the same may be said of unripe or stale fruits and vegetables. Sleeping rooms should be well ventilated, and cleanliness in everything must be preserved, and especial care taken to secure the purest drinking water. Such precautions during a cholera epidemic may reasonably assure avoidance of the disease.

At the commencement of the diarrhœal period, give every fifteen minutes a teaspoonful of an infusion of raspberry leaves, prickly ash and wild yam, each one-half ounce to a pint of boiling water, and rub stimulating liniment over the abdomen. Every two hours

give a teaspoonful of a mixture of neutralizing cordial, four ounces; tinc. kino, two drachms; com. tinc. of myrrh, one-half drachm; keep the feet warm and enjoin quiet and abstinence from food, and only table-spoonful quantities of water at a time to quench thirst.

Should the symptoms develop adversely and cramps set in, no time must be lost in resorting to heroic measures. Prepare hot infusion of red pepper with salt in it and dip flannels in this and rub the cramped muscles vigorously. Make the following: Composition powder, one ounce; scullcap and golden seal, one-half ounce each to a pint of boiling water and add an ounce each of cider vinegar and tincture of kino, and administer every half hour in teaspoonful doses. If it cannot be retained leave out the vinegar, and give as an injection to the bowels every half hour and have it retained, by a compress if necessary. If the crude smart weed can be obtained it may be made into a fomentation with hot water and laid upon the abdomen. The period of collapse is one of profound congestion and all treatment must be directed toward sustaining the heart's action and equalizing the circulation. Hot salt bags or jugs of hot water may be placed along the sides and the patient may be wrapped in hot blankets.

During convalescence the strictest attention is necessary. Food should not be given for a day after the attack, and medicines should likewise be withheld unless there is urgent need of them. The kidneys may frequently be urged to action by placing over the small of the back cloths wrung out of hot water. Quietude is imperative. All sheets and bed clothing that could possibly have been soiled with evacuations or discharged injections should be burned, and every precaution taken against spreading the disease, even though it be epidemic.

CHOLERA INFANTUM.

Summer Complaint of Children.

This is a disease of childhood, and is always the result of preventable causes. It is almost entirely con-

finer to the cities, and filth, crowding, overheating and unwholesome food are the principal causes. The greed for gain sacrifices many thousands of lives of little children by providing them improper food and surroundings for existence; the poor are thus forced to suffer.

Symptoms of cholera infantum may come on slowly; though in nearly all cases they develop rapidly, usually becoming dangerous in six to twelve hours. There are frequent discharges from the bowels, of a thin and frothy character, soon followed by rejection of food and vomiting. Great prostration ensues and may result in unconscious stupor, the eyes rolled back and the extremities cold and blue. As a rule the countenance is pale and the nose pinched and cold, while the abdomen and head are hot and there is every indication of internal fever. The pulse is weak and small and very frequent.

Treatment.—Neutralizing cordial and syrup of wild cherry, equal parts, should be given as soon as diarrhœa commences. Rub stimulating liniment over the abdomen, and if the surface is hot, give a sponge bath of warm water. Keep the child absolutely quiet and give plenty of fresh air. Do not let it be annoyed by flies or by being carried about. An injection of weak infusion of raspberry leaves and lady slipper may be given every three hours. If the feet are cold, wrap them in hot flannels. Quench the thirst by small drinks of cool water.

For food, the malted milk will be found a superior article. Ordinary milk should have a little lime-water added. During convalescence the syrup of wild cherry bark will be found most useful. The prevention of cholera infantum consists in fresh air and wholesome and proper food and avoidance of overheating along with cleanliness. Little children should not be fed on the diet of adults. All during the summer months the greatest care must be taken of their welfare. Flannel should be worn next to the abdomen, and every precaution taken against chilling the surface. Strictly prohibit ice water and harsh foods.

CHOLERA MORBUS.

Choleraic Diarrhoea. Cholera Nostras.

This is essentially a summer disease caused by over-indulgence, improper food or sudden changes. It is in reality an acute catarrhal inflammation of the stomach extending into the intestines and causing extreme nervous prostration. There is nausea, retching and vomiting of greenish material, followed by watery discharges. There may be cramps and pain. The attacks come on suddenly and are often repeated, while the whole system becomes prostrated. The surface may grow cold and collapse and death may possibly follow neglected cases.

Treatment.—Place a mustard plaster or flannels saturated with stimulating liniment over the abdomen. Administer neutralizing cordial containing a little tincture of kino every fifteen minutes. As a drink, allow no cold water, but give an infusion of marsh-mallow root and catnip. In extreme cases, injection of raspberry leaf infusion is serviceable. During convalescence give syrup of wild cherry bark and allow a return to usual diet to be made very slowly.

CHOREA.

St. Vitus' Dance.

This is a most annoying difficulty, characterized by inability to control the use of the voluntary muscles. It usually occurs with girls between the ages of six and sixteen, but men and adults may be sufferers. Children of consumptive parentage or those of a highly nervous organization are oftenest afflicted. The difficulty may come on slowly, or it may develop suddenly from some shock or great mental excitement or injury. Worms and pregnancy are not infrequent causes, though such cases are cured when the exciting cause is removed. Simple habits often acquired by children, such as winking, shrugging the shoulders, etc., should not be mistaken for St. Vitus' dance.

Symptoms.—The first signs are usually fidgetings and awkwardness, often mistaken for clumsiness, and scoldings under such circumstances aggravate the difficulty. Inability to hold articles in the hand, especially breakable articles, is usual. Then come peculiar twitchings or contractions of the muscles. Odd faces may be “made,” and the arms or legs may jerk involuntarily.

The head may be thrown to one side suddenly, the tongue stuck out, etc. Occasionally there is a nervous cough and irregular breathing. The involuntary movements may be general, though usually confined to one side of the body or one particular set of muscles. They are not painful and very seldom continue during sleep. Attacks of St. Vitus’ dance rarely last over a month at a time; though occasionally the difficulty is stubbornly chronic.

Treatment.—Search for exciting causes and remove them. Expel worms, clean out the alimentary canal, evacuate the liver and correct disorders of the stomach should such exist. Never scold children for their awkwardness under such circumstance, and do not refer to their unusual actions—it makes matters worse. Keep them from school and let them have perfect freedom, and allow them to sleep late in the morning. Give warm baths morning and evening, and never allow fatigue at play or work. Prepare a syrup as follows: Cramp bark and black cohosh and hops, each one-fourth ounce to a pint of hot water; steep and strain and add one and a half pounds of sugar and flavor with essence of anise. Give a teaspoonful between meals and at bed-time. This may be given as a simple infusion, made fresh each day.

CHOROMIDROSIS.

Colored Perspiration.

This is a peculiar condition in which perspiration seems to be colored red, purple, and in a few recorded instances, brown. The real nature of the difficulty is not known. It has been successfully treated by fre-

quent bathing in borax water, abundance of fresh air and wholesome food, and perfect rest of mind and the use of nervine tonics.

CHYLOTHORAX.

Chyle in the Pleural Cavity.

This is an accumulation of chyle in the pleural cavity, and is caused by an injury or the rupture of the thoracic duct. It is of extremely rare occurrence and is recognized by thrusting an aspirating needle into the cavity, drawing off some of the milky fluid and examining it under the microscope. Remedies are of no avail and nearly all cases are fatal. Drawing off the fluid by the aspirator may give relief for a short period.

Cirrhosis.—See Diseases of the Liver.

COCCYDYNIA.

Neuralgia of the Coccyx.

This is a very painful affection involving the small bone, or coccyx, at the lower end of the spine. Usually caused by an injury, such as falling astraddle or coming down heavily and unexpectedly upon the seat. Women frequently suffer from it as a result of parturition.

Symptoms.—There is great neuralgic pain, readily known to have its origin at the tip end of the spine. This pain may be constant, sharp twinges upon the least movement; or it may occur as severe neuralgic spells at intervals.

Treatment.—The bowels must be kept open so as to avoid accumulations in the rectum. If the fæces become hardened there will be great pain caused during movements of the bowels. At such times injections should be administered. Locally apply tincture of lobelia freely, and during neuralgic spells use injections

of boneset and lobelia infusion. Quietude must be maintained as far as possible. Severe cases usually require the coccyx (the lowest point of the spine) to be removed by a surgical operation.

COLIC.

Colica Enteralgia.

This is an acute trouble of the bowels, causing spasmodic pain radiating from the navel. The suffering comes on at intervals of more or less frequency, and at times is very intense, causing the patient to bend double, and often to grow cold and break out in perspiration. Pressure on the abdomen gives relief, by which colic may be distinguished from other difficulties. There is a great amount of wind on the bowels, from which fact it is often termed flatulance or wind colic. When this has passed off relief is experienced, and an evacuation of the bowels (which at the time are usually constipated), will almost end the attack.

Treatment.—When it is known that the suffering is caused by the pressure in the stomach of undigested food, an emetic should be given at once—a tablespoonful of salt in a cup of luke warm water with a pinch of mustard will usually suffice. If the food is apparently already in the intestines, as is usually the case, give a dose of milk of magnesia, or of senna and ginger in infusion. For the suffering, rub stimulating liniment or essence of ginger over the abdomen and internally give neutralizing cordial in teaspoonful doses every half hour. If there is great cramping, use an infusion of peppermint, spearmint, catnip or wild yam every ten minutes till relief is obtained. A mustard plaster over the abdomen may even be found necessary.

COLIC—LEAD.

Painters' Colic. Saturnine Colic.

This is peculiar to those working in trades employing lead, or any of its preparations, or to those who

drink wines or liquors adulterated with lead compounds, or those who have been poisoned by drinking water or foods contaminated by the metal.

Symptoms.—These usually come on slowly, requiring two or three days for their development. There is uneasiness throughout the bowels, occasional purging, loss of appetite and a general feeling of numbness through the hands and feet. These are followed by constipation and griping, nausea and disgust for food and sharp pains in the limbs. There is great paleness and a feeling of dejection and a desire to refrain from all exertion. The crampings in the bowels increase and center about the navel, and the abdomen becomes depressed and often feels knotted. A narrow streak of blue may often be seen along the gums and the muscles may become tender and paralysis sometimes follows.

Treatment.—A vapor bath given slowly is of great value, after which the whole body should be rubbed thoroughly with stimulating liniment. Then give injections of a weak infusion of lady-slipper and bone-set in starch water; these may be repeated every two hours during an attack. Internally administer an infusion of composition and lady slipper every hour, and night and morning give the liver pills. During convalescence give the compound syrup of gentian (see formulas) and allow most nourishing though light diet. Milk is an excellent drink. Change of occupation and out-door exercise should be provided in all cases.

COLIC IN CHILDREN.

Flatulence.

Very small children, two or three weeks old, may be afflicted with colic. The causes are varied. Usually it is the result of the noxious articles—goose-grease, orange juice, sugar-water, etc., poured down a new born infant's throat by meddlesome nurses to "clean out the mucus." It may be caused by too

early feeding, or by retention in the bowels of the meconium or dark fluid found in the intestines at birth, or other causes.

Symptoms.—Spells of crying come on at stated intervals, usually at night, and continue perhaps for two or three hours; the legs are drawn up to the belly, which is usually distended, and there may be belching of wind.

Treatment.—Do not dose an infant, and always consider that what may be mild and simple to an adult may be severe to a baby. Give a small injection (two ounces) of a weak infusion of catnip and wild yam. This will usually be found sufficient. If not, give about half a teaspoonful of catnip and pleurisy root infusion. Turn the child on its belly and gently rub the back. A warm bath before the hour of an expected attack will often forestall it or decrease its severity. These spells may last a month or more.

COLIC OF THE KIDNEYS.

Nephralgia. Colica Renalis.

When a person is subject to gravel or calculi, an attack of renal colic is liable to occur at any time and cause excruciating agony while it lasts. The ureters are the tubes which convey the urine from the kidneys to the bladder; they are funnel-shaped at the kidneys, and gravel is extremely liable to get into them, and should a small stone as big as a grain of wheat happen to find its way into one of the ureters, it would have great difficulty in passing through it to the bladder, and would cause irritation, inflammation and swelling, which would still more retard its movement.

Symptoms.—These usually commence very suddenly as intense pain in the back and loins, extending to the testicles, a prominent sign being the fact that the testicle on the side affected is drawn upward. In women there is pain in the region of the ovary, but women seldom suffer from renal colic. The urine is scanty,

almost suppressed, sometimes coming away in drops and containing blood. Prostration is usually quite severe, and the agony may be such as to cause the sufferer to throw himself upon the floor and almost "go into spasms." It may continue a few hours or even two or three days before the small stone drops into the bladder, when there will be instant relief. Occasionally the stone becomes fixed in the ureter, when the most grave consequences may follow.

Treatment.—The aim must be to relax the structures and thus favor the passage of the stone through the ureter. Apply to the small of the back and the loins a warm poultice of flax seed and lobelia seed and renew frequently, keeping it warm. Give large injections of lobelia and lady slipper every hour, having them retained. Internally administer an infusion of spearmint and wild yam every half hour in teaspoonful doses, adding lobelia if relief is not soon obtained. Treatment cannot be too urgently pressed during an attack. Afterwards use marsh-mallow root or hollyhock leaves and shepherd's purse in infusion for several days, and raspberry leaves if there continues to be a little blood in the urine.

Congestion.—This is a condition that may occur in any organ or any part of the body. It is a partial or complete stasis of blood, and is usually preceded by an inflammatory stage. The inflammatory stage being an indication that vital force is endeavoring to overcome obstructions, and the congestive stage being an indication that the obstructions are greater than vitality can overcome unaided.

Treatment must be based upon endeavors to equalize the circulation and sustain vitality. The various forms of congestions are considered in the articles on diseases of the various organs, such as the Bladder, Brain, Kidneys, Liver, Lungs, Spleen, Stomach, etc.

Congestive Fever.—See Intermittent Fever.

Conjunctivitis.—See Section on Diseases of the Eye.

CONSTIPATION.

Inactivity of the Bowels. Costiveness.

This well-known condition, in which the bowels are not regularly evacuated, may be the result of various causes.

Predisposition—many persons by nature seeming to be thus troubled.

Inattention to Nature's calls—occasioned by neglect, laziness or occupation.

Improper diet—eating too much meat or dry foods, or drinking excessively of milk.

Inactivity of the liver—there being a deficiency of bile thrown into the intestines.

Deficient peristaltic (muscular movement) of the bowels; usually due to lack of nerve tone.

Mechanical obstructions in the bowels—the pressure of the womb, tumors, etc.

Treatment.—Diet is of the first importance. Succulent vegetables and fruits are most essential. Figs, dates and prunes are valuable when other fruits are out of season. Bread made of fine white flour should be avoided. The whole wheat flour is by all means the most nutritious. Oatmeal and cereals in general are beneficial. Bathing, especially cold sponge baths, should be indulged in daily.

The remedies employed for constipation are too numerous to mention. Physics should be avoided, unless there is most urgent necessity. An infusion of two drachms of senna leaves and a few grains of ginger to a cup of boiling water will be found effectual, but should not be relied upon. Where there are no symptoms of muscular relaxation, daily injections of warm water, one or two quarts, retained as long as possible, are a favorite with many.

Where there is a tendency to sluggishness and evident relaxation of the bowels, make a syrup as follows: Butternut bark, one-half pound; wahoo and golden

seal, each two ounces; peppermint herb, one ounce; steep in one quart of boiling water for one hour; strain and add two pounds of sugar and two ounces of glycerine; take a teaspoonful night and morning. Milk of magnesia may be used to advantage when indigestion is the prime cause of the trouble.

Fluid extract of cascara sagrada, ten drops in water night and morning, will be found valuable where there is deficient peristaltic action and apparent sluggishness of the liver. Pure white soap rolled into suppositories the size of a pistol cartridge may be inserted into the rectum to produce evacuation. Regularity of attempts to evacuate the bowels should be persisted in.

CONSUMPTION.

Phthisis Pulmonalis.

This disease attacks persons of enfeebled constitution, who possess little resistive powers against disease. Their condition of low vitality may have been inflicted upon them by parents diseased with scrofula, consumption, cancer, syphilis, alcoholism, etc., or their condition may be the result of some neglected acute or chronic trouble; or their constitutions may predispose them to consumption. Frequently children are consumptives whose parents were perfectly healthy, though physically unsuited to one another. The marriage of blood relatives not infrequently results in consumptive children.

Again, perfectly healthy persons may acquire consumption through unfavorable habits or surroundings. Poor food, hard labor, dark houses, frequent exposures, insufficient clothing, intemperance, excesses, inhalation of poisonous vapors or irritating particles, close confinement, dampness and unhealthful homes, malarial localities, and many other influences may be the means of the acquirement of consumption. One-seventh of mortality is ascribed to this disease and in large cities the ratio is more than doubled.

Persons who are especially liable to contract consumption are usually slender and flat-chested, the shoulder-blades prominent and the shoulders thrown

forward. The bones of the body are light, the neck long. The skin is thin and pale and easily reddened by nervousness or fever. A bright spot often appears on the cheek. The hair is usually fine and light. The whites of the eyeballs of a pearly lustre, and dark rings under the eyes upon the least indisposition. Such persons should take extra precautions against exposure; and while very susceptible to the disease they may never contract it, but live to long life owing to their great vigilance.

It is not essential to enter into a discussion of the theories of consumption, nor to explain the bacillus said to be its prime cause. The real condition consists of very minute particles of tuberculous matter in the membranes of the lungs; these particles increase and collectively harden and then soften like an abscess, destroy adjacent tissue and seek to discharge themselves into the air passages. The discharge causes inflammation, which excites coughing, the tuberculous matter may be expelled, affording relief, followed by another development of tuberculous material and a second respite, to be succeeded by new formations to be discharged. Each respite from inflammatory symptoms is shorter than the preceding, and the general strength of the patient continually fails, though when the prominent symptoms abate he and his family are greatly encouraged. By the formation of these tuberculous abscesses and their discharge cavities are left in the lungs. These repeated periods of formation of deposits are termed the first, second and third stages of consumption.

The changes that take place in the tissues usually commence in the upper portions of the lungs; most frequently the left lung, though any part may be first attacked and the deposits may simultaneously occur in the intestines, or joints or other localities. The various stages of consumption may each occupy a year or more, and the disease may possibly extend over eight or ten years, though three years is an average period (hasty consumption excepted). Some patients are able to be about till death occurs, while others are invalids or confined in bed during a long period of time.

Symptoms.—These are usually developed slowly, and the patient seldom realizes the seriousness of his condition until the disease is far advanced. Failure of nutrition and enfeebled circulation are often noticed early. Loss of appetite, easy fatigue, shortness of breath, feverishness in the evenings, a hacking cough, hoarseness, night sweats, bleeding from the lungs of small quantities at intervals, expectoration of mucus, becoming frothy and then purulent. In women derangement or suppression of the menstrual function.

There is usually dull pain in the chest and tenderness. *Pleurisy* is common. The *stomach* becomes deranged easily. The *bowels* are decidedly irregular, alternating between diarrhœa and constipation. The *face* becomes very thin and the *hair* falls out easily; the finger-nails grow curved and turn inward and the tips of the fingers become somewhat bulbous. The *tongue* is red and sensitive and is often covered with little sores. All these signs are not invariably present, but most of them will make their appearance.

Cough is one of the most persistent symptoms of consumption, and its severity does not always correspond with the severity of the disease. It at first is usually short and quick, as though coming from the throat. In time there may be severe paroxysms of coughing, causing vomiting and profuse expectoration which may almost choke the patient. In the later stages of the disease night sweats become very profuse and diarrhœa constant and extremely weakening. Swelling of the feet likewise occur and hemorrhages are likely to become frequent, although in some cases hemorrhages occur very early.

All the way through the course of the malady it is characterized by progressive emaciation, and the retention of the mental faculties even till the moment of death. Hopefulness of recovery is universal with such patients and probably prolongs life. Complications are liable to occur during the course of the disease, such as pneumonia, pleurisy, laryngitis, glandular enlargements and suppuration, fistula, fatty or degeneration of the liver, Bright's disease, diabetes,

tuberculous meningitis of the brain, ulceration of the intestines, diseases of the veins of the leg, etc.

Treatment.—Nearly all cases of consumption prove fatal. Some are curable, and a very few recover without special treatment, as has been demonstrated by mortem examinations of persons who in early life apparently suffered from the disease and then lived long lives and died of other maladies.

If the disease is recognized very early it may possibly be arrested. Persons especially liable to the disease from inherited tendencies or predisposition should exercise the greatest care to avoid risks from catching cold. An even and moderate temperature of living rooms should be maintained, taking care to avoid excessive warmth and foolish extremes. *Clothing* should be regulated by the weather, and increased or diminished according to changes of temperature. Drafts of air should be avoided, likewise wetting the feet or becoming chilled. A healthful climate should be sought, living rooms must be light, dry and airy. The most nutritious diet is imperative—milk and eggs being especially valuable, also grapes and other succulent fruits. The mind should be kept from worry and fatigue, and healthful, though moderate exercise provided—out-door exercise being most advantageous.

Such measures may thwart threatened development of consumption; and those parents whose children are apparently consumptive, should rear them to a rugged out-door life. Dropping education of all kinds if need be to build up the constitution and arrest retrograde changes, will be found the only course to pursue.

The subject of climate for consumptives has always been an important one. Clay soil, marshy plains, valleys, hot districts and places where there are sudden changes of temperature or damp winds, should be avoided. The country is always preferable to the city provided a dry soil can be secured. Mountainous regions, not too high, are usually beneficial, though high latitudes should not be sought by those suffering from hemorrhages. The pine mountains of Georgia and North Carolina are excellent localities. Colorado and New Mexico and Southern California have many ad-

vantages. Perhaps the most beneficial climate for consumptives can be found in the Hawaiian Islands. The temperature there is equable the year round.

Care must be taken to avoid too much medication as the stomach turns against it. The following is an excellent combination to use as a cough syrup and tonic:

Take fluid extract Comfrey.....one ounce.

“ “ *Mexican Sage, Peru-*

vian Bark, each...one-half ounce.

Syrup of Wild Cherry Bark.....six ounces.

Mix. Dose, a teaspoonful night and morning, or oftener if necessary.

Constipation or diarrhœa must be treated according to directions laid down elsewhere.

Hemorrhages may usually be controlled by a teaspoonful of common salt or saltpetre in a cup of water. If profuse, tannic acid may be dissolved in hot water and sprayed so as the patient may inhale it.

Night sweats should be controlled if possible. An infusion of golden seal and bayberry can be taken each night. Cold sage tea is commonly employed. Often sponging the body with a solution of common salt and tannic acid will accomplish good results.

Cod liver oil has obtained a fabulous reputation for consumption. As a nutritive it is doubtless excellent, and patients using it may for a time increase in weight. But its value as a medicinal agent must be questioned. Other oils more palatable, if taken as persistently, would probably accomplish equally beneficial results.

As a tonic the following is excellent:

Take fluid extract of Gentian.....one-half ounce.

“ “ *Blue Cohosh...one ounce.*

“ “ *Hops.....one-half ounce.*

Syrup of Ginger.....six ounces.

Mix. Dose, a teaspoonful between meals.

Opium preparations, hypodermic injections of morphia salts and narcotics in all forms must be avoided.

The use of wine is vastly inferior to taking unfermented grape juice or eating the grapes themselves in abundance.

Nervine liniment (see formulas) will relieve pain in the chest if applied vigorously. No specific for the disease has ever been discovered, though many such have been claimed through mercenary motives.

Nevertheless consumption must not be considered as an absolutely incurable disease, even to those who are unable to aid themselves by a change of climate. Indulging in hopefulness should not cause neglect in even the most trifling matters, but on the contrary, it should urge the patient and friends onward to endeavor to take advantage of every reasonable opportunity to aid recovery.

It is the author's belief that many cases of consumption pronounced beyond the possibility of recovery are frequently within the bounds of successful medical treatment. An experience of many years in the practice of medicine has demonstrated this belief to be well founded. In evidence of which a large number of cases could be cited of persons who are now hale and hearty, and who, when they presented themselves for treatment, were in their own estimation and that of their family physicians, doomed to die at an early day. In general it may be stated that in most cases when not more than one-third of the lung structures have been destroyed there is reasonable hope of recovery, provided proper medication is employed and instructions are rigidly obeyed.

CONVULSIONS.

General Spasms.

Persons of all ages may be subject to spasms, though children are the most frequent sufferers. The causes are varied, but are always some form of irritation to the nervous system; such as (1) diseases of the brain or spinal cord or their membranes; (2) injuries to the head; (3) circulation of abnormal blood through the brain, as in uræmic poisoning and various fevers;

(4) reflex irritation, as from teething, worms, indigestion, etc.

Symptoms.—Usually there are premonitory signs, such as fretfulness, gritting of the teeth during sleep, slight twitchings and general peevishness in children. The convulsion comes on suddenly, and often without any warning, and is characterized by involuntary contractions of the various muscles of the body. These contractions may be intermittent or trembling or jerking; though usually they are intense in character, amounting to rigidity. Sometimes the head is thrown back and the eyes rolled upward and there is great contortion of the face, which may become livid. Death seems imminent and parents become greatly alarmed, though the danger of the attack at the time is not so great as seems apparent. The breathing is greatly interfered with; the pulse is small and frequent and the surface cold and often covered with perspiration. Consciousness is usually lost. A child may have but a few spasms at long intervals, or on account of predisposition or disease they may be frequent. The spasm may continue from a few minutes to half an hour or possibly more.

Treatment.—Give abundance of fresh air, loosen the clothing and place the child on the back with the head up during an attack, and at once prepare a tub of hot water (hot as can be borne continually and easily by the hand), and if the spasm has not ceased put the child in this for five or ten minutes and then wrap in blankets and keep quiet. If the bowels are constipated give an injection of boneset infusion; if the stomach is disordered give neutralizing cordial. If the teeth are struggling to come through lance the gums.

Frequently some special articles of food, such as meats and gravies, may be a provoking cause of spasms. Delicate children, subject to convulsions, should be afforded quiet and fresh air, and light nourishing diet; and given a nerve of lady slipper and wild yam in infusion in small doses two or three times a day.

CORN ON THE FOOT.

Clavus.

Corns are horny-looking growths which come upon the feet, usually the toes, from irritation caused by too loose or too tight shoes. First of all provide proper foot wear, and sew a piece of felt on the outside of the sock and cut a small hole so as it will come directly over the corn. By this means the pressure from the corn will be relieved. Rings of felt may be firmly glued directly to the toe around the corn. This alone in time will cause the corn to disappear, or become of such condition that it may be removed.

Another method is to soak the corn each night in hot water and then apply an ointment of one drachm of salicylic acid rubbed into an ounce of vaseline. Five or six applications will soften the corn sufficiently to allow it to be easily removed. Care must be taken to keep the ointment off of adjoining tissues. A corn on the sole of the foot needs a felt insole with a hole cut through it directly under the corn. Soft corns are best treated by dusting them with powdered oxide of zinc and frequently cleansing them with warm water and castile soap, and applying tincture of calendula before applying the zinc oxide. They usually appear between the toes and require a wide shoe.

COW-POX.

Vaccinia. Fever of Vaccination.

Under a misplaced confidence in the 'fads of medicine persons are often induced to inoculate themselves or their children with the filthy virus obtained from diseased cows, with the hope that in some mysterious manner they may be protected against small-pox. Thus voluntarily contracting one disease in the false hope that they may possibly escape another, which they would never contract should they closely observe the laws of health.

Symptoms.—Within two days after inoculation, minute red pimples appear at the points of inoculation, and by the fourth day a vesicle forms, greatly resembling small-pox, and from the seventh to the eleventh day a filthy pustule surrounded by red and swollen tissue is apparent. It may be extremely painful and the whole arm may swell enormously. In three week's time the pustule has dried and formed a scab which is shed and has left an ugly purple scar which turns white in course of time. Were this all of cow-pox it would be sufficient to be avoided. But unfortunately graver symptoms are almost universally present in a greater or less degree. There is general feverishness amounting to exhaustion and causing delirium and intense suffering in children.

The adjacent lymphatic glands become swollen and sometimes suppurate. The pustule itself may become almost malignant; and according to a noted authority "the original lesion may become inoculated with pyogenic or erysipelatous bacteria, which may cause tedious ulceration or diffuse inflammation." Numerous cases of death have been reported from cow-pox or its sequences. It is a filthy and harmful disease and its results may continue for years, causing liability to glandular diseases and diphtheria; and never protecting from small-pox.

Treatment.—This is a disease which never need be contracted. The sufferers are voluntary victims or helpless children who have the disease forced upon them by parents who refuse to think for themselves; or the law which guarantees personal liberty is responsible for its forcible infliction upon healthy persons. Of this more will be said under the heading of Vaccination. During the fever the patient should drink freely of pleurisy root and ginger infusion; and if the sore becomes purple or angry compound tincture of myrrh should be added and also rubbed about the sore. Diet should be light, and every precaution taken against contracting cold and irritating the ulceration. The bowels should be kept freely open. See, also, article on Vaccination.

CRAMPS.

Spasms of the Muscles.

These are usually the result of indigestion, or exposure to continued cold (as in swimming), or from excessive exertion, as long continued walking. The treatment consists in briskly rubbing the contracted muscles and applying stimulating liniment, if relief is not soon obtained. Cramps in the legs may often be relieved by extending the limb and pressing the toes upward toward the top of the foot as far as they can be bent. Frequent cramps from indigestion necessitate the proper treatment of that trouble. The cramps occurring during pregnancy may not be completely overcome till after delivery.

CROUP—FALSE.

Spasmodic Croup. Laryngismus Stridulous.

This is a disease of infancy, usually occurring before the tenth month and very rarely after the second year. It is technically termed laryngismus stridulous, and is entirely different from true croup, called pseudo-membranous or inflammatory.

Symptoms.—An attack of spasmodic or false croup usually comes on at night time, the child awakening suddenly with a hoarse, barking cough and difficulty of breathing; taking in breath often causing a whistling sound, and the face growing purple and suffocation seeming imminent.

These symptoms may continue (if not relieved by antispasmodics) for several minutes or possibly hours, and then suddenly cease and the child fall asleep. The next day there may be no apparent disturbance and at night again an attack; and these attacks may continue for several nights. The symptoms appear alarming, but the disease is very rarely fatal. It is often preceded by restlessness, and is usually the result of over-eating, or of worms or some intestinal disturbance. Fever is almost always absent; but there may be spasmodic twitchings of the hands and feet

during an attack and the face may be red and the eyes watery.

Treatment.—If the attack is so violent that the spasm of the glottis has actually shut off breathing instant efforts must be made. Lift the arms and slap sharply the chest and buttocks; dash a little cold water on the face and chest and, if possible, without delay, put the feet and hands in hot water. Such procedures need seldom be resorted to, as the breath usually comes before they are commenced.

Syrup of lobelia is an infallible remedy for false croup, a half teaspoonful put far back on the tongue and forced down the throat will give relief at once. The dose may be repeated every ten minutes till vomiting follows, which will usually follow the third dose. Lobelia infusion can be used instead of the syrup. Never give medicine when the breath is lost; it might cause strangulation. An ideal preparation to keep on hand is made as follows: Steep in a pint of hot water half an ounce of lobelia herb and one-fourth ounce of black cohosh. Strain and add one pound of sugar and two ounces of glycerine. After an attack of false croup indigestion or intestinal irritation must be corrected by appropriate treatment and the child's diet carefully regulated.

CROUP—TRUE.

Pseudo-Membranous or Inflammatory.

This is a dangerous difficulty, mostly confined to children, and characterized by an inflammation of the mucous membrane of the trachea and the exudation over the inflamed parts of a plastic, fibrous membrane. The disease in many respects resembles diphtheria, though very different in its course and results.

Symptoms.—Usually for two or three days before an attack there will be all the signs of a bad cold, though these may be absent. The attack itself comes on suddenly in the night. The child awakens greatly frightened, the face flushed and the eyes blood-shot.

He clutches at the throat and is in evident distress; inspirations sound like air rushing through a brass tube. Relief may come, but it will be transient. Paroxysms occur with increasing frequency, fever arises, the croupy sound resembles the noise made by a rooster held in the hand, breathing becomes very difficult, and suffocation is constantly threatened and may occur and cause death from the third to sixth day, preceded by livid face, cold extremities, drowsiness, and gasping and struggling for breath, the pulse growing gradually smaller and weaker.

Treatment.—There can be no trifling with so desperate a malady. Rub over the throat and upper part of the chest the third preparation of lobelia (see formulas). If this is not at hand, make a strong infusion of lobelia and a little red pepper and soak flannel in it to be put around the throat, and change the flannel or rub on the third preparation every three hours. Administer an infusion of pleurisy root with a little ginger and lobelia added, in teaspoonful doses every fifteen minutes, till vomiting occurs; or give three drops of the third preparation of lobelia in water instead of the infusion. After vomiting give every half hour or every hour in order to maintain relaxation, and if suffocation seems imminent, increase the dose and frequency immediately. Have the bowels move freely and keep the patient very quiet.

Syrup of wild cherry bark with a little cramp bark added will loosen the cough when paroxysms are not on. When drowsiness occurs and the extremities grow cold, give composition with lobelia freely and also an injection of scullcap containing ginger, and keep hot applications to the feet. After convalescence is established nurse carefully and keep in-doors at least a week. Some children, especially those who are fleshy, are peculiarly prone to attacks of croup. The disease is not contagious.

Croupous Pneumonia.—A form of pneumonia characterized by croupous and fibrous exudations. It is fully considered in the article on Pneumonia.

Cyanosis.—A condition in which air cannot enter the air cells in sufficient quantities to aerate the blood; it occurs in many diseases, especially in capillary bronchitis and congestion of the lungs. See, also, Blue Disease.

Cystitis.—See Bladder Difficulties—Acute Inflammation.

DANCERS' CRAMP.

Dancers' Palsy. Spasms of the Muscles.

This is a condition which causes the muscles of the limbs to suffer spasmodic cramp as the result of excessive use in performing particular classes of actions. It is especially liable to occur in professional dancers, and particularly so in those of a nervous temperament. It is a nervous disease with muscular symptoms at first; though finally the nerves show their deplorable condition.

Symptoms.—At first there will be a sense of fatigue and exhaustion, followed by dull pain in the limbs, with trembling. These signs are followed by spasms of the muscles, such as twitchings or knotted conditions. Then there will be prickly and burning sensations and tinglings followed by numbness and a feeling of constriction. Dancing becomes impossible, either from weakness or the muscles becoming rigid when the attempt is made. Before long the general nervous character of the disease is apparent. The whole body may tingle and be covered with perspiration, the voice may be lost and paralysis may follow; although it is seldom these extreme cases are developed.

Treatment.—The nervous system must be sustained by such nerve tonics as wild yam (*dioscorea*) and scull-cap. The muscles and peripheral nerves should be

kept in healthy condition by embrocations of cocoanut oil containing a half ounce of oil of lobelia to the pint. This preparation should be worked into muscles along with massage. Absolute rest from dancing will never cure dancers' cramp. It is usually best to keep up the usual exercise, only very moderately, and carry out the treatment given. Electricity will often prove beneficial. Hygienic living and nourishing food and freedom from anxiety are imperative.

Dandy Fever.—*Dengue*.—See Break Bone Fever.

Dandruff.—*Pityriasis*.—This is an affection more or less troublesome to almost everyone. It consists of an excessive shedding of the outer cells of the scarf-skin of the scalp. For treatment see Hair Diseases.

Deafness.—See section on Diseases of the Eye and Ear.

DEATH SIGNS.

Evidences of Life Being Extinct.

Occasionally there may exist reasonable doubt as to the occurrence of death, and the horrors of burying alive should prompt friends or physicians to secure absolute proofs of death before burial. A life-like appearance and apparent warmth in the body after supposed death, should be sufficient reason for deferring burial as long as possible. The possibility of trance under certain circumstances should be remembered (see Trance). The following may be considered absolute proofs of death:

Reduced Temperature.—A clinical thermometer inserted far into the rectum and allowed to remain there for five minutes, will give the internal temperature of the body; this should be below 78° in death within thirty hours. If it is 90° or more after twenty-four hours, life is almost certainly present.

The Surface.—Form a blister on the skin by heat and open it widely; if the part beneath is red and the edges of the blister turn dark red, life should be suspected; otherwise no line will appear and the under surface will be dry and glassy if death has taken place.

The Heart.—A trance may give a feeble heart beat of eight or ten per minute, and in rare cases life may exist and recovery follow an apparent complete cessation of the heart's action for five hours. It is sometimes difficult to absolutely decide that the heart has ceased to beat; the pulse does not always convey the information. Make an incision in the thigh and apply a dry cup; blood will flow if the person is dead. Tie a twine tightly about a finger—a white ring will appear about it and the part beyond will grow red and then bluish if life exists. Needles thrust deeply into a living person will tarnish greatly within an hour.

Breathing.—Respirations in living persons may at times grow almost imperceptible. Three modes of ascertaining if breathing is carried on may be employed:

(1.) Stand a shallow dish of water on the chest and carefully watch if its surface is disturbed.

(2.) Tie a feather to a thread and hold before the mouth or nostrils and notice if it moves even slightly.

(3.) Hold a cold mirror before the nose and mouth and look closely for evidence of moisture.

Such experiments tried several times during twenty-four hours without results would clearly indicate death. More than one case is recorded where such methods prevented a hasty decision of death.

Muscles.—Soon after death all the muscles become relaxed, the limbs are easily flexed and the lower jaw drops down. This complete relaxation usually lasts four or five hours, possibly less, and very rarely is prolonged beyond twelve hours. Rigidity, known as rigor mortis, follows, causing the muscles to become fixed firmly in any position they were made to assume when relaxed. This fact demonstrates the necessity

of at once, as soon as death is suspected, placing the body and limbs in desirable positions. Rigor mortis may commence within three hours after death; it continues from twelve to forty-eight hours, and is followed by a relaxed and flabby condition.

Putrefaction.—The cause of death and character of the weather influence the time of the commencement of decay. As a rule three days will give signs of putrefaction, characterized by disagreeable odor and distension of the abdomen by gas. In all doubtful cases wait till this commences, even if for months. A trance may last a long time, and without perfect evidence of death embalming or ice packing, post mortems or burial should not take place. Burial alive, though very rare, is too horrible to run the risk of mistake.

DELIRIUM.

Wandering of the Mind.

Extremely nervous persons and young children very frequently manifest delirium even during slight fever. In all acute cases when delirium comes and goes with the rise and fall of the temperature it need not be regarded seriously, though when it is persistent and continues even when the temperature falls toward normal, it is a bad sign.

Furious delirium may occur during very high fever and still not be of grave import; but delirium which follows hemorrhage or profuse sweating, accompanied by prostration and paleness, is a serious matter. Low, muttering delirium frequently occurs in low grades of fever and is always bad. Delirium with a sinking pulse is bad, and also delirium with continued unnatural pulse and irregular breathing. Quiet and natural sleep after delirium is good.

Treatment for delirium must always be in accordance with the malady which it accompanies. Rest and quietude are imperative in all cases. Arguments and coaxing are folly, though a patient may be soothed by acquiescing with his idea.

Delirium Tremens.—See article on Alcoholism.

Dengue.—*Dandy Fever.*—See Break Bone Fever.

Dentition.—See the article on Teething.

Dermatitis.—This is an inflammation of the skin, and may occur in various forms as described in the articles on Herpes, Erythema, Eczema, Urticaria, Ecthyma, etc.

DERMATOLYSIS.

Looseness of the Skin.

Under circumstances which cannot be fully explained the skin covering various parts of the body may become very loose and hang in folds, and become partially insensible at times. The face, abdomen and labia are the parts most frequently affected. But little can be done besides building up the general health and bathing frequently in salt water and employing brisk rubbing.

Desquamation.—This is a shedding of the outer cells of the scarf skin of the body, and frequently occurs after the eruption has disappeared during eruptive diseases. See Scarlet Fever, Measles and Erysipelas.

DIABETES INSIPIDUS.

Polyuria.

This disease is characterized by an enormous increase in the amount of urine passed every twenty-four hours, the constituents of the urine not being materially changed. Children are the usual sufferers.

Symptoms.—These usually develop slowly, though occasionally with suddenness. Increase in the amount

of urine is accompanied by great thirst and diminished perspiration and dryness of the mouth and throat. Occasionally the general health does not seem impaired, but as a rule there is headache, dizziness, stomach and bowel troubles due to indigestion. Appetite fails (though at first it may be voracious), emaciation and general debility follow; the skin becomes shrunken and dry, and the temperature inclined to fall below normal. Imperfections of vision, partial paralysis of certain nerves, dropsy, exhaustive diarrhœa and vomiting are likely to precede death. The color of the urine is usually light yellow or colorless and clear, but becoming muddy after standing. Its specific gravity is about 1010°, but varies, and it has not the characteristic whey-like odor peculiar to diabetes mellitus, which is an entirely different malady, probably allied to it.

This disease probably has its origin in the nerve centers, as it has been produced artificially by irritation of portions of the brain. Direct causes may be mentioned to be, drinking cold water or becoming chilled directly after being over-heated, drinking alcoholic liquors to excess, violent exertion or nervous shock.

Treatment.—Hygienic measures are most important—freedom, out of door life, cessation from study, well ventilated sleeping rooms and nourishing diet are imperative. Excessive drinking should not be too much restricted; acidulated drinks are best. Salt-water baths with friction are beneficial. The following is a valuable promoter of intestinal digestion: Citric acid and tartrate of iron and potassa, each twenty grains, dissolved in seven ounces of water, and one ounce of glycerine added to preserve it. Dose, one teaspoonful in water after each meal.

As a tonic to the kidneys and nerves, use fluid extracts of corn-silk (*stigmata maidis*) and scullcap, each one-half ounce, in syrup of wild cherry bark, seven ounces. Dose, a teaspoonful night and morning. The disease often becomes chronic, and if not checked, results in death, preceded by great debility and wasting or dropsy.

DIABETES MELLITUS.

Saccharine or Sugary Urine.

This is a serious condition, the real pathological nature of which is obscure. It involves the presence of sugar in the urine in varying quantities and an increase in the amount of urine daily voided. The causes may be similar to those of diabetes insipidus; also may be injuries to the head or spine, eating excessively of sugar or starchy foods, great grief or worry or mental or physical exhaustion. Some persons seem to have a hereditary tendency to the disease.

Symptoms.—These are always insidious. In fact an unusual appetite and relish of food and drink seem to be the rule. Perhaps the first symptoms will be an inordinate desire for food, and pain and distress in the stomach unless satisfied. Eructations of gas are common with distension over the stomach.

The *bowels* are constipated and the evacuations are light colored and spongy, though in far advanced cases there may be diarrhœa.

The *tongue* may be moist and furred part of the time, though generally when the disease is established it is red and irritable and fissured. The throat becomes dry and sticky and in time the gums grow spongy and the teeth loosened and the saliva often acid.

The *skin* is usually dry and harsh; though at times there may be profuse perspiration of an acid character and of a sweetish taste.

The *breath* often possesses the odor of decaying fruit. Lobar pneumonia is not infrequent, and very often consumption sets in.

The *special senses* and organs become deranged. Vision may become dim or disordered. Cataract is not uncommon and the cornea sometimes becomes clouded and opaque. Taste and smell may become perverted or absent, and hearing is diminished or lost.

Cramps, backache and muscular weakness are usual. Neuralgia, especially of the sciatic nerve, is common, and sometimes partial paralysis occurs, of a local character, and there may be spells of an apoplectic

nature. The skin may be covered with pimples and boils and ulcers often occur. The heart shows signs of organic disease.

The Urine.

The urine of diabetic patients is characteristic. It is pale, clear and opalescent, and usually of a high specific gravity, from 1015° to 1060°, and ferments rapidly if kept in a warm place. When left exposed it attracts flies and has a fruity odor. When voided, it usually irritates the urinary passages, causing a burning sensation and annoying itching.

The quantity of urine passed in twenty-four hours varies; but the amount is usually greatly in excess of the normal; and whenever a person persistently voids an unusual amount, diabetes should be suspected. During the course of the disease ten, twenty or thirty or more pints of urine may be passed daily.

Sugar, even in the smallest quantity, is not considered a normal constituent of urine, though after eating abundantly of sweets, it may temporarily appear. But its presence under other circumstances points to diabetes.

The test for it is simple: To a drachm of urine in a test tube add ten drops of solution of sulphate of copper (blue stone), and half a drachm of solution of caustic potash, and then boil. If sugar is present the whole will turn red or dark brown, according to the amount.

Another simple test is to add ordinary yeast to a pint of urine and place in a quart jar in a warm place for twenty-four hours; if fermentation, manifested by bubbles of gas, takes place, sugar is present. Diabetic urine when shaken becomes very frothy and the froth remains for some time. The actual amount of sugar passed daily with the urine may vary from half an ounce to two pounds, and occasionally more.

The general condition of diabetic persons is one of progressive disability. The countenance looks careworn and there is an irritability and peevishness of disposition; vigor seems lost, sexual desires and power

are diminished, and mental exertion is distasteful. There is usually chilliness of the surface and frequently swelling of the ankles and limbs. Small children suffering from diabetes present most pitiable conditions. They become excessively pale and assume a waxy appearance. The flow of urine becomes almost constant, and the little ones grow weak and puny, and toward the end of the trouble moan constantly, and show signs of distress.

Diabetes is fatal in a large majority of cases, and more dangerous to the young than to the old. From one to three years is the average duration of the disease, though it may prove acute in form and terminate fatally in a few months; and diabetic persons may have life prolonged for many years by judicious treatment and appropriate habits of living, or by such means a permanent cure may be effected even in severe cases.

Sometimes death comes on suddenly from blood poisoning or nervous prostration, or other complications. Occasionally the sugar in the system seems to undergo alcoholic fermentation and thus cause death. Toward the close of the disease, just before death, the sugar may disappear from the urine, albumen may be present in large quantities and diarrhœa and exhaustion set in.

Treatment.—In all cases the patient should be impressed with the fact that his own actions will largely decide the outcome of the case. He must exercise self control and great watchfulness in his habits and diet. Indiscretions or forgetfulness may cause fatal results. An equable temperature is desirable; and the surface must not be chilled. The wearing of flannel is imperative. Regular and systematic exercise out of doors is a necessity. The mind must be kept quiet. Anger must be controlled and all emotions suppressed. Turkish baths are of great service. It would be wisdom to secure a household vapor bath and use it once a week, and also take salt-water baths every other day, with brisk rubbings. Sea bathing is most beneficial.

Diet for Diabetic Persons.

Diet is of the greatest importance; but changes should not be made too abruptly. All foods containing quantities of starch or sugar should be discarded.

Prohibited Articles:—Preparations of flour and starch, rice, potatoes, beans, peas, lentils, buckwheat, oatmeal, Indian corn, barley, rye, chestnuts, grapes, pears, peaches, apricots, plums, figs, bananas, apples, prunes, cherries, berries, beets, tomatoes, asparagus, onions, radishes, melons, alcoholic liquors of all kinds.

Allowable Articles:—Meats of all kinds except liver, poultry and game, fish and oysters and shell fish of all kinds, eggs, cheese, butter, broths, cabbage, cauliflower, water-cress, kale, spinach, lettuce, broccoli, celery, kohl-rabbi, sprouts, plain chocolate, mineral waters, buttermilk, tea and coffee, unsweetened.

Some persons may use skimmed milk, but in most cases it is unadvisable, and should be allowed only when there is especial desire for it and repeated examinations of the urine show that it does not increase the amount of sugar. Almond biscuits, gluten bread or ordinary bran rusks may be substituted for bread. Sea moss is a most excellent delicacy. Occasionally turnips, carrots and parsnips may be used in limited quantities. Care must always be taken to give as much variety as is consistent with the classes of foods permissible. Fats are most useful, and fresh raw meat chopped up with cabbage, salt, pepper and celery salt will be greatly relished.

An exclusive diet of fats, meats and eggs will greatly aid the disappearance of sugar in the urine, but such a diet cannot be continued any length of time without causing other derangements dangerous to life. Water must be allowed in large quantities; as its prohibition may cause death.

Medication must be directed toward keeping the skin moist and warm, correcting unnatural conditions of the stomach and keeping the bowels regular. Infu-

sions are best, and always without sweetening; pleurisy root and ginger will serve to regulate the skin; it may be taken freely. Senna is excellent for securing free action of the bowels, though the liver pills will be found useful.

As a tonic and digestive use tartrate of iron and potassa and citric acid, each one dram, in water, seven ounces, and glycerine, one ounce; dose, a teaspoonful in water before each meal.

Saccharine is used by many as a sweetening, but its use for any length of time is not endured by the stomach, and some cannot tolerate it all.

Occasionally patients will be unable to subsist upon the proper foods, when a mixed diet will be found imperative. It is far better to allow an encroachment upon forbidden articles of food than to cause distress and debility by rigid adherence to a diet theoretically most suitable. The facts must be known, and then judgment, common sense and self control must be exercised.

DIARRHOEA.

Looseness of the Bowels.

This is a summer difficulty and is usually caused by indigestion, over-eating, drinking too much ice-water, eating unripe or unsound fruit, or vegetables which disagree with the stomach, or sudden chilling of the surface, driving the secretions and circulation inward.

Symptoms.—These are frequent and thin discharges from the bowels unaccompanied by straining or pain, except such as is of a colicky character. If the diarrhoea is caused by derangement of the liver, as is frequently the case, the tongue will be coated, and the discharges clay-colored when bile is deficient, or greenish-yellow when the liver is relaxed. Occasionally there will be great weakness with diarrhoea, but fever and general disturbances of the system are not marked. It usually lasts three or four days, but if neglected, it may run into dysentery or some other serious form of bowel difficulty.

Treatment.—If the bowels contain undigested or acrid materials, they should be evacuated by giving a dose of castor oil or milk of magnesia. After this use neutralizing cordial in teaspoonful doses every three hours and rub a mildly stimulating liniment over the abdomen. If there is much weakness and the stools are very frequent, give a strong infusion of scullcap, bayberry and ginger. If the character of the discharges show a deficiency of bile, give the liver pills, and if the discharges are offensive add a very little tincture of myrrh to the neutralizing cordial or infusion. Allow only moderately cool drinks and an extremely light diet. The thickened milk or malted milk are excellent. Keep the patient off the feet, in the bed is best; and always provide plenty of fresh air.

Chronic Diarrhoea is an obstinate difficulty, and the liver is usually at fault and the tone of the bowels diminished. Use after each meal a teaspoonful of fluid extract scullcap, one ounce; cascara, one-half ounce, in four ounces of syrup of wild cherry bark. Frequently drink an infusion of composition powder and use the stimulating liniment over the abdomen. Avoid unwholesome and harsh foods and drink only pure water, leaving alcoholic liquors alone and avoiding excesses of all kinds.

DIAPHRAGM DISEASES.

Diaphragmitis. Singultus. Rupture.

The diaphragm is a muscular and tendinous structure dividing the thorax from the abdominal cavity. It is lined above and below with serous membrane which may become inflamed along with the pleura or peritoneum or pericardium, constituting *diaphragmitis*, or inflammation of the diaphragm. The symptoms are hiccough, yawning, difficulty of taking a deep breath, pain in the shoulders, difficulty of breathing, etc. In nearly all cases diaphragmitis is associated with either inflammation of the pleura, pericardium or peritoneum, and must be treated accordingly. See articles on Pleurisy, Heart Diseases and Peritonitis.

Singultus is the technical name for hiccough, which is a spasmodic contraction of the diaphragm. See the article on Hiccough.

Ruptures and perforations of the diaphragm may occur. The former as a result of violent and heavy lifting or from concussions; the latter as a result of suppuration in the lungs or liver or other structures. These are serious conditions and are considered elsewhere.

Dilatations.—The arteries, veins, bronchi and heart and other organs may become dilated from various causes. These are mentioned in the articles considering diseases of the various organs. See also Bronchiectasis.

DIPHTHERIA.

Putrid or Malignant Sore Throat.

This is probably the most treacherous and dangerous of all infectious diseases. Its chief characteristic is the formation of a highly poisonous false membrane in the throat, accompanied by constitutional disturbances and evidences of blood-poisoning from absorption. It may occur at any season of the year, though most prevalent during the fall and winter months. In some sections, especially in northern cities with severe climate, the disease is likely to occur extensively every winter; and in almost any locality it may break out in epidemic form. High latitudes, where the air is dry and the temperature comparatively even, are least liable to outbreaks.

Certain influences are favorable to the development of diphtheria, such as unhygienic surroundings, dampness, poor ventilation, sewer gas, improper diet or insufficient or unwholesome food. The disease has frequently been conveyed by contaminated milk. Children under ten years of age are most liable, though adults may be attacked. Those whose constitutions are enfeebled or who are debilitated from measles, scarlet fever, croup and other diseases are prone to

succumb to diphtheria. One attack does not give immunity against the disease.

Diphtheria is highly contagious, though its actual contagion lies in the decomposing membrane. Inhalation of the breath of diphtheritic persons or other methods of allowing the germs of the disease to enter the mouth or circulation will prove disastrous. Merely entering the room of diphtheria patients will not contaminate the clothing, but being close to them causes liability of germs from the membrane being coughed upon one. In like manner bed clothing and other articles may become contaminated.

When diphtheria is suspected, in fact whenever there is sore throat with fever, the patient should be isolated until the malady is certainly determined. In cases of diphtheria every precaution must be taken against infection of others. It must be determined at once who shall be the attendants, and no others should be admitted. The patient should be placed in a room capable of being evenly heated and well ventilated, and as remote as possible from the family living rooms, and where there is no dampness and where disturbing influences will not be annoying.

Bed clothing should be changed often and never mingled with that of others or carried through living rooms. Dishes, spoons, etc., used by the patient should be washed separately and no one else allowed to use them. Disinfectants should be freely employed—Platt's chlorides diluted with water can be relied upon. Saturate cloths with this solution and hang them about the room; also use it in vessels for all discharges. Let there be thorough cleanliness and perfect ventilation; but never allow the room to become chilly—a temperature of 70° should be maintained. An open grate fire affords an excellent means of ventilation. Rags and papers used about the patient should be burned, and also as many of the articles of clothing or bedding as possible.

Symptoms.—These in many respects are variable, and according to the grade of the disease. In mild cases there is at first a distinct chill followed by feverishness and frequent pulse, and general prostration,

out of all proportion to the apparent disturbance. There will be headache, occasionally nausea or vomiting and difficulty in swallowing, especially liquids. There is usually stiffness and soreness of the neck, sometimes complained of before any other symptom. The tongue becomes furred and white and the tonsils swollen and dark red. In two or three days there will be seen upon the tonsils or fauces small white spots or patches, which are firmly adherent, and appear as pieces of parchment attached to the mucous membrane. They constitute the false membrane of diphtheria, turn yellow or gray and gradually loosen and are expelled in from five to ten days, leaving the surface tender and the patient extremely weak.

The severe or infective form of diphtheria usually commences in the same way as the mild form; but the false membrane extends rapidly, looks ashy and may cover the tonsils and soft palate and extend downward into the larynx, trachea and bronchi, and upward into the nasal passages, and occasionally about the genitals or upon previous wounds of the skin. The lymphatic glands of the neck, especially those under the angle of the jaw, become hard and enlarged and may possibly suppurate.

Fever is not always present at the commencement of the attack, and as a rule as the case progresses the temperature is normal or even slightly below. Sometimes the pulse is frequent and small; occasionally it may be less than sixty a minute. The strength fails rapidly, the countenance looks pale or dusky and anxious, and the lips bluish. There is a lack of appetite, usually noticed from the beginning of the attack.

Bleeding from the nose may occur in severe cases and the breath becomes offensive and the voice husky. If the membrane extends down into the wind-pipe there will be coughing and difficulty of breathing. Such cases often prove fatal about the tenth day; sometimes sooner and sometimes later, and possibly they may linger for three or four weeks. Vigorous treatment, commenced early and persistently carried out may aid recovery.

Occasionally a rash or eruption may make its ap-

pearance over the body during the first week, and continue for a day or two.

Sometimes the disease develops so insidiously that, beyond great prostration and extreme drowsiness, it is not realized till beyond aid. Drowsiness is a common symptom in nearly all cases, although the mind is clear during wakefulness.

Sometimes death occurs very suddenly from blood clot in the heart. Or paralysis of the heart may occur and death be instantaneous during some extra exertion. This may happen during the course of the disease or after convalescence is established.

Malignant diphtheria is a form of the malady usually fatal within three or four days and occasionally within twenty-four hours after its development.

There may be scarcely any local symptoms, but the prostration is great. Usually malignant cases are characterized by a very dark throat and rapid development of the membrane, which appears gangrenous and becomes frightfully offensive.

Various degrees of paralysis will frequently be the result of severe cases of diphtheria. The lower limbs are mostly affected; though any set of muscles may be involved. The difficulty most commonly commences one or two weeks after the membrane has disappeared, though it may occur earlier or later.

Unless paralysis involves both the upper and lower portions of the body it is rarely fatal. Though when the heart is involved and there is frequent fainting, difficult breathing and weak and irregular pulse, death usually follows.

A few special symptoms may manifest themselves during the course of the disease. Vision and hearing may be interfered with and the sense of smell completely lost. The muscles of the face may be paralyzed early and give a frightful countenance. The bowels and bladder may be affected, and all natural evacuations cease for awhile. Again, diarrhœa may occur. The organs of speech may be also affected.

It is not always an easy thing to diagnose diphtheria—tonsillitis being often mistaken for it. Prostration and drowsiness from the start, a dark red throat and unevenly swollen tonsils and the appearance of a

membranous patch (single or multiple), tenacious in character, and swollen glands of the neck constitute sufficient evidence of diphtheria.

Treatment.—In mild cases nourishing diet, perfect quiet, a stimulating application about the throat and a gargle of borax and tincture of myrrh in water and small doses of infusion of composition will usually suffice. For infective diphtheria, the treatment cannot be too vigorous or persistent. Internally administer composition, goldenseal and scullcap, each one-half ounce in a pint of boiling water, steep and strain and add one-half teaspoonful of tincture of myrrh; dose, two teaspoonfuls every hour.

As a spray use a mixture of peroxide of hydrogen and water, each one ounce; fluid extract of goldenseal and tincture of myrrh, each one drachm. Spray the throat thoroughly every hour with this, having the patient spit out loosened material. It is imperative that this treatment be administered every hour, night and day, awakening the patient if necessary. It is laborious, but is necessary. Sleep may appear more beneficial than medicine in some diseases, but in diphtheria as long as the membrane exists its presence is dangerous to life, and unless antiseptics are constantly applied and the system sustained, the poison will be absorbed and death follow. It may require two persons to administer the treatment in small children—one to hold the child firmly, for struggling is exhausting. Let the treatment be given quickly and the patient, even though awakened from sleep, will soon get to sleep again.

Should prostration increase or the breath grow offensive, and the membrane look ashy and the tissues around it grow dark, add a small amount of capsicum to the infusion and in the spray use compound tincture of myrrh instead of simple tincture. Equal parts of powdered borax and sulphur may be blown into the throat every third or fourth hour instead of the spray solution, or in severe cases it may be blown into the throat every hour immediately after using the spray.

Should the membrane extend into the larynx and threaten suffocation, an emetic must be given at once.

A teaspoonful of salt and half a teaspoonful of mustard and ten drops of third preparation of lobelia (see formulas) in a cup of luke-warm water will usually produce emesis. In this connection it may be stated that all cases of diphtheria will be greatly benefited by the administration in the outset of a stimulating emetic as directed under Emetics. (See Formulas.)

Should the extremities grow cold, use the infusion every half hour or every fifteen minutes, till chilliness passes away and place hot irons to the feet.

After the membrane has disappeared the spray need not be used more than every four to six hours, and after a few days not at all, and the infusion may be given every two hours, gradually lengthening the intervals and allowing the patient to sleep without disturbance only after the throat is absolutely clear. The membrane is likely to reappear two or three or more times before convalescence is established. Each time it must be vigorously treated.

In all cases the diet must be extremely light and nourishing. While the membrane exists there will be little appetite. Malted milk or pure fresh milk will be found palatable, oat meal crackers, gruels and broths are beneficial. Oranges and pineapples, the harsh parts extracted, are good; lemonade is also an acceptable drink; egg-nog (without alcohol) may be given after the worst symptoms have abated. Pepsin or pancreatin will be found useful in aiding digestion.

Nourishment is an important factor in the treatment of diphtheria, and when it cannot be swallowed it must be administered by injections to the rectum. Cold drinks must be absolutely prohibited; they have a tendency to produce local congestion in the throat.

Paralysis, when it appears, should be treated by external applications of the stimulating liniment and using frequently the tonic infusion mentioned. Rubbing the liniment over the spine during the disease may ward off attacks of paralysis.

The bowels are usually constipated, and should be moved by injections. Cathartics are not advisable. Should diarrhoea occur, the syrup of wild cherry will be found useful.

Lime water should be kept on hand to use in the milk if there is any tendency to sourness of the stomach.

The room occupied by a diphtheria patient should be thoroughly fumigated before others are admitted. Burning of two pounds of sulphur in the form of sulphur candles is best. The patient should be thoroughly bathed with borax water and clothed with clean and disinfected clothing before mingling with others.

Antitoxine.—During the last few years the treatment of diphtheria by antitoxine has gained considerable notoriety. Its character and effects when fully known by the people will place it where it properly belongs as one of the most dangerous and worthless medical humbugs of the age.

Antitoxine is a highly poisonous substance prepared by taking a portion of the virulent membrane from a diphtheria patient's throat and placing in boullion at the temperature of the human body for cultivation until it has reached its greatest virulence. It is then injected into a horse, little by little, until the animal (if he does not die) becomes thoroughly saturated with the poison—agonizing to himself, horrible to look upon and dangerous to handle. He is then in a condition to furnish to the medical profession the precious fluid which shall aid them in procuring money and fame at the expense of the lives of human beings.

The horse, after reaching that condition which hovers between life and death, is bled for the benefit of humanity, that is for the financial benefit of a small portion of humanity included in the medical profession. The highly poisonous serum, or watery portion of the blood, is preserved in carbolic acid solution ready for injection into the bodies of little children at the nominal price of ten or twenty dollars per injection. The method of operation and its purposes was well described by a Chicago physician, as follows:

“Well, I had an opportunity to try antitoxine lately. The patient was a little girl, eight years old. I sent for Dr. Blank to help me; for you know if I did the work myself, I couldn't charge them \$20, and besides, I

wanted the cash. He and I divided the fee. Then there is another advantage in having a stranger sent for—it gives more importance to the operation, and the parents think there is something wonderful and dangerous about it to require such precautions. To make a long story short, we covered the dining-room table with a double blanket and then covered that with a clean sheet, and with an atomizer sprayed it thoroughly with corrosive sublimate solution. We then had the child stripped of all clothing and laid face down upon the table. Yes, she struggled valiantly, sick and small as she was, to stop us, but I held her down while Dr. Blank performed the operation. He rubbed a spot on the thigh and one between the shoulder blades till the skin almost wore off, and then wet them with the corrosive sublimate solution and injected the antitoxine serum with a hypodermic syringe. Say; do you know, I really felt sorry for the little child. It used her strength up terribly. But I could hardly keep from laughing at the blind faith those parents had in it all. And the way in which the father handed out the \$20 made me make up my mind that hereafter I'm going to recommend antitoxine every time."

Such are the words of a practicing physician in Chicago, spoken to the author of this book. The child died, but the parents had the satisfaction of "doing all in their power."

Let a grown man in perfect health submit to the injection into his circulation of the serum of a sick horse diseased by diphtheria poison and we would expect serious results. What can be expected when helpless and almost dying children are compelled to submit to the operation?

Its most earnest advocates admit that it is valueless if administered after the third day of the attack. How many cases of diphtheria ever come into the physician's hands before the third day? Very few. Reports are sent to the medical journals from every section of deaths directly ascribable to antitoxine.

Dr. Winter, of the Willard Parker Hospital, New York City, when antitoxine was extensively experimented with upon suffering children, condemns it as

useless and dangerous. The Medical Brief, of St. Louis, the most widely circulated medical journal in the world, denounces antitoxine as a dangerous medical humbug, and is doing all in its power to stop such horrible practices by the medical profession for mercenary motives. See volumes of the Medical Brief for 1895-1896.

It may be thought that there must be some good in it or so many physicians would not recommend it. Mercenary motives actuate most of its advocates, and the rest are blind followers of fads. Not long since Dr. Brown-Sequard proposed to rejuvenate old men by injecting into their circulation the vital fluid of guinea pigs. It seems incredible, but it is a fact, that many thousands submitted to the foolish operation, and many leading members of the medical profession arose to prominence by advocating its use and performing the operation for a good fat fee.

We may now laugh at the credulity of persons led to believe in such an absurdity, which swept over the country. But it is far from a laughable matter when distracted parents are urged and almost forced to submit their dying children to mercenary physicians, willing to inject into them the filthy and virulent poison from a diseased horse's blood, that they may earn their fee and have the satisfaction of "doing all that could be done." Better far that children should lie unattended and be left to the mercy of Nature, than to be tortured and poisoned when life is hanging in the balance. Woe to them who attain riches and notoriety through the tortures and lives of the innocents!

Diplopia.—*Double Vision*.—See Eye Diseases.

DIPSOMANIA.

Insane Desire for Alcoholic Liquors.

Some persons addicted to the use of alcoholic liquors seem to acquire morbid conditions closely allied to insanity. Their spells of drunkenness come on

spasmodically, and they seem to be absolutely unable to resist them. Often being abstemious for months and then deliberately intoxicating themselves in a most reckless and insane manner. A paroxysm of drunkenness having passed they deport themselves naturally till the next spell. They should be regarded as insane. General treatment should be pursued as for Alcoholism.

Dislocations.—These are fully considered in the special section on Fractures and Dislocations.

Displacements.—The various organs of the body are liable to become displaced through accident or disease. These are considered in the articles on diseases of the Bladder, Heart, Liver, Spleen, Womb, etc.

Distoma Hepaticum.—*Liver Fluke.*—This is a small worm often found in livers of sheep, and occasionally in the bile ducts or gall bladder of human beings.

DISSECTION WOUNDS.

Blood Poisoning from Dead Bodies.

The poison from dead bodies of persons or animals who died of disease may be absorbed by healthy persons and cause most serious consequences. Such accidents mostly occur to persons dissecting carelessly or otherwise cutting themselves during the operation. But the poison may enter through the hair follicles when there is no abrasion of the skin. Bodies of persons who have died from peritonitis, typhoid fever or erysipelas should be handled with the greatest care.

Symptoms.—(1.) There may be slight fever and heat, redness and swelling of the limb affected, while the general system is unaffected.

(2.) There may be great swelling of the limb affected and abscess there or elsewhere.

(3.) There may be sudden development of symptoms of blood poisoning, rapidly terminating fatally.

The spot where the poison has been absorbed looks angry and a pustule or scab is formed. Running up the limb is seen a red streak, the line of the lymphatics extending to the glands. The glands themselves become enlarged and suppurate and abscesses form around them. Within twenty-four hours there will be chills followed by fever, and the patient soon becomes very anxious and prostrated, possibly delirious, and collapse before death.

Treatment.—If noticed in time, tightly grasp the limb above the wound so as to prevent, if possible, the poisoned blood flowing through the veins, suck the wound or cauterize it. Allow blood to flow for a time and then direct a flow of cold water over the spot. Externally apply compound tincture of myrrh with fluid extract of hydrastis added and bandage. Internally drink abundantly an infusion of composition and scullcap containing a little myrrh. Keep the bowels open, give an abundance of fresh air, provide most nourishing food, give rest to the limb, open abscesses as they appear, allow frequent salt water baths. Avoid all excitement and mental worry; keep the mind cheerful and pleasantly occupied. Do not allow alcoholic liquors of any kind, and under no circumstances should opiates or narcotics be administered.

Divers' Paralysis.—See article on Caisson Disease.

DROPSY.

Anasarca. Ascites. Hydrocephalus, Etc.

All tissues of the body are kept moist by the presence of fluid in their interstices. Under various circumstances, caused by local or general diseases, the amount of fluid in the interstices or in the cavities of the body may become greatly in excess of the normal; the excess being furnished by the transudation of the serum of the blood through the walls of the blood-vessels. This condition may be brought about by:

Over distention of the blood-vessels, caused by alterations of the vessels themselves, or diseases of the heart, or obstructions to the flow of blood.

Diseases of the liver, kidneys or lungs interfering with circulation.

Alterations of the blood caused by diseases, such as urea in the blood; or poisons in the blood from malaria, etc., or impoverishment from consumption, scurvy, cancer and other low forms of disease.

Exposures to wet or cold, driving the blood inward and over-burdening the kidneys, and causing congestion. The seat of dropsy varies according to the cause.

Anasarca is the term given to general dropsy.

Ascites is dropsy of the peritoneal cavity, commonly known as abdominal dropsy.

Oedema is local dropsy, such as ordinary swellings.

Hydrocephalus is dropsy of the brain, also known as Water on the Brain.

There are other forms of dropsy, each named according to locality.

Symptoms.—The swelling or puffiness, pale skin and doughy feeling are readily recognized; but as the cause of the difficulty and the real seat of disease must be known it becomes necessary to recognize peculiarities of the symptoms. Dropsy from lung or heart disease begins about the ankles and extends upward, and develops very slowly, and there are signs of congestion, the veins and venous capillaries looking blue and the skin usually glazed and tense.

Dropsy from disease of the kidneys usually commences as puffiness about the eyes and of the hands, and may extend rapidly, often in acute cases causing enormous swelling of the face in a few hours. In chronic cases, it extends over the body, the skin appearing pasty and dull white, tinged with lemon.

Dropsy from disease of the liver commences in the stomach and may from there extend to the limbs. It progresses very slowly.

Dropsy of one limb or in some special locality points to local obstruction.

Dropsy from anæmia or impoverished blood is never extensive, usually confined to puffiness about the eyes and ankles. It comes and goes. Usually disappearing from the feet during the night and being prominent about the eyelids in the morning.

In all cases of dropsy the secretions of the body are deficient. The bowels are constipated and the urine diminished in quantity. There is a feeling of uneasiness and a sense of fullness in the parts affected. Pressing the swollen part with the finger leaves a depression which fills out very slowly. Thirst is often very urgent and the skin dry; perspiration entirely absent.

Treatment.—The organ affected which is the real cause of the difficulty, must be appropriately treated. But in all cases outward circulation must be promoted and the strength maintained and the bowels kept open. Turkish or vapor baths should be employed at least once a week. An infusion of equal parts of composition, goldenseal and peach leaves should be used freely every three hours. Compound butternut syrup (see formulas) is the best laxative for the bowels. Onions are most valuable additions to diet, which must be of a stimulating and highly nourishing character.

Drop-Wrist.—This is a species of paralysis caused chiefly by metallic poisoning of those who handle lead paints or other metallic preparations. The hands drop at the wrist joints and are almost useless. Hygienic surroundings, change of occupations and electrical treatments offer the only hope of relief.

Drug Rashes.—These are rarely more than inflammatory conditions of the skin; although they sometimes assume very severe conditions and may possibly endanger life. It is always important to distinguish them from various eruptive diseases. The drugs most liable to cause rashes are belladonna, ergot, mercury, quinine and copaiba.

Drunkenness.—It is important at times to distinguish drunkenness from apoplexy. Serious mistakes have been frequently made in this regard. It is very rarely that a drunken person cannot be partially aroused and forced to mutter a few words. In apoplexy partial paralysis or relaxation of one side is usually apparent. See the article on Alcoholism.

Dumb Ague.—Described in the article on Ague.

Duodenitis.—This is an inflammation of the portion of the intestines known as the duodenum. It is also known as intestinal catarrh. Described in the article on Inflammation of the Bowels.

DYSENTERY.

Bloody Flux. Camp Diarrhoea.

This malady is essentially an inflammation of the large intestines and rectum, much more severe in character than diarrhoea and more exhaustive in its effects. It is most common in the latter part of summer or fall; and it may be epidemic in character, especially in newly settled countries or in swampy localities. When it becomes epidemic in crowded localities, such as camps and mining districts or densely populated neighborhoods, it may be attended with great mortality.

Mild Cases.—Frequent, small and painful passages from the bowels, accompanied by great straining (tenesmus) and offensive fæces mingled with slimy mucus, usually streaked with blood, are characteristic of dysentery. In most cases there will be more or less fever, the cheeks looking flushed and feeling hot, the tongue will be coated and there will be great prostration, loss of appetite and sleeplessness and restlessness at night.

As a rule the abdomen is swollen, and there is a continuous desire to evacuate the bowels and a feeling as if some solid substance were in the rectum that should be expelled. The number of small evacuations

from the bowels may be ten or fifteen or more every hour. Such a condition is very exhausting and the patient loses flesh rapidly. In otherwise healthy persons, under favorable circumstances, a simple case of dysentery, as described above, may subside within a week, especially if proper treatment and good care are given.

Severe Cases.—Under unfavorable circumstances the disease assumes a more serious form. Fever continues, accompanied by great thirst, and a typhoid condition becomes apparent. The tongue is red and pointed and glassy looking, the abdomen falls inward, straining at stool ceases and the muscles of the anus may be so greatly relaxed as to make the inner walls of the rectum visible. The evacuations from the bowels are like water mixed with blood, and the urine is hot or almost suppressed. The pulse become small and frequent and the breathing very hurried; there is great emaciation and a “ghost-like” countenance, and death may quickly follow. In nearly all severe cases of dysentery perfect consciousness remains until the last moment. Under proper treatment these severe cases may recover, though convalescence will be slow, on account of the destruction of intestinal glands.

Chronic Dysentery.—Feeble or aged or intemperate persons, or those with constitutional diseases, when attacked by dysentery, are liable to develop the chronic form, which may linger for a long time, and then cause death by exhaustion. In these cases there is little pain or fever, but there is great weakness and emaciation. The acrid discharges cause irritation and ulceration in the rectum and about the anus, and the least movement or exposure to cold may cause great distress. The tongue becomes red and raw, and blood may be present in the mouth and the breath becomes offensive. Often, just before death, the limbs become swollen, the eyes sunken and the mouth and throat and conjunctiva ulcerated.

Chances of recovery from dysentery vary according to the different forms. Mild cases almost invariably recover, but are liable to recur on account of damage

done to the large intestines. Severe cases, as a rule, yield to treatment, while seventy-five per cent is the proportion of deaths in chronic cases. Dysentery is a disease which is greatly aggravated by neglect, and the longer proper treatment is delayed the more difficult will recovery become.

Treatment.—Absolute quietude and rest in a recumbent position are indispensable for recovery from even mildest cases. Flannels wrung out of hot water may be placed over the abdomen and frequently renewed, or stimulating liniment may be applied.

When the diarrhœa first starts with the straining sensations, milk of magnesia should be freely given; or injections of elm-water containing some soothing nervative. If there is feverishness give a weak infusion of lady-slipper and pleurisy root.

Always advise and insist upon as few passages from the bowels as possible. It may seem, from the straining sensations, that going to stool is imperative; but determination and a recumbent position may delay evacuation a long time. When there is great distress at stool, sitting on a bed-vessel containing steaming hot water will afford relief.

In severe cases the extremities or the whole surface may become cold and require hot irons to the feet and frequent bathing of the limbs and body with stimulating liniment, or the application of hot flannels. Stimulants and astringents should never be used during the earlier stages of dysentery.

After the worst symptoms have subsided, a gentle tonic will be necessary. An infusion of witch hazel leaves, one ounce, and raspberry leaves one-half ounce, to a pint of hot water will be found very strengthening, and if the kidneys have been involved, peach leaves, one-half ounce, may be added. Such an infusion may be used four and five times a day.

Nourishment during dysentery must be very light, such as malted milk, chicken or mutton broth, thickened milk, oyster liquor, etc. Iced drinks and alcoholic liquors are dangerous. Water containing a little gum arabic will keep the mouth moist, even when taken in teaspoonful doses.

Chronic dysentery is well treated by using the following prescription in addition to stimulating liniment frequently applied over the abdomen:

Take fluid extract Hollyhock (Althea) ..two ounces.
fluid extract Wild Cherry bark ..one ounce.
fluid extract Wahoo.....one-half ounce.
Mucilage of Gum Arabic.....two ounces.
Simple Syrup.....for eight ounces.
Mix. Take a teaspoonful every three hours.

During an epidemic of dysentery or in swampy or unhealthy places during hot weather, persons should keep scrupulously clean, eat a light and nourishing diet and avoid all excesses and resort to quietude and treatment as soon as symptoms of dysentery commence.

Dysmenorrhœa.—*Painful Menstruation.*—See the section on Diseases of Women.

DYSPEPSIA.

Indigestion. Gastric Catarrh.

There are but few adults who have not experienced dyspepsia in some form. It is a rapidly increasing difficulty in America, and one which may be spoken of as fashionable among all classes.

The causes of dyspepsia are not always improper diet. In fact, those who are the most cautious in their dietary often suffer the most. The disorder is essentially one dependent upon unnatural conditions of the nervous system, such as nervous prostration or nervous irritability brought about by over-tension or worry. Spermatorrhœa and nervous debility and hysteria and hypochondria are also frequent causes of dyspepsia. In nearly all cases of dyspepsia the nervous system and not the stomach should be most carefully considered. Over-study, book-keeping and sedentary pursuits of all kinds will usually, sooner or later, bring on some form of dyspepsia.

Symptoms.—As a rule attacks of indigestion in dyspeptics follow over-eating. Usually there will be uneasiness in the stomach, as though it were heavy and full, and one or more of the following symptoms: Bad taste in the mouth and furred tongue, belchings, headache, heartburn, dizziness, palpitation of the heart, difficult or asthmatic breathing, accumulations of mucus in the stomach, loss of appetite, bad dreams, etc. Such symptoms belong to cases which are not constant.

Chronic Dyspepsia is of itself a disease dependent upon alterations in the lining membranes of the stomach, which are affected by continued nervous disorders. This difficulty develops slowly. A few signs of its approach may be mentioned: Disturbed sleep, desire to lie abed in the mornings, awakening with a dry throat and bad taste in the mouth, poor appetite and general indisposition.

The more pronounced symptoms of advanced cases are: Headache and mental dullness, heartburn, heaviness of the stomach; flabby and furred tongue, paleness of the face, irregularity of the bowels, sediment in the urine, cold feet, weak pulse and general prostration.

In cases of long standing there may be hacking cough, intermittent fever, palpitation, often severe, great mental depression, hypochondria, etc.

Treatment.—In cases caused by over-eating, a mild emetic to empty the stomach is the best means of relief. The taking of soda or magnesia, practiced by some, is injurious. After an emetic take a large dose of neutralizing cordial, and for several days eat very lightly. Those who cannot take an emetic may find relief using pepsin in some form, but this should not be continuously relied upon.

Chronic and obstinate cases being primarily the result of nervous troubles, the true conditions must be sought for and treated as mentioned for the various affections, such as spermatorrhœa, hypochondria, hysteria, etc. Fluid extracts of hops and scullcap, each one ounce, in six ounces of syrup of ginger, taken in teaspoonful doses every two hours, will be found ex-

cellent. Another excellent tonic is composed of salicin, two grains, and phosphate of hydrastia one grain, taken in capsule before each meal; though this preparation should not be taken when the tongue is dry or the stomach irritable. The compound gentian tonic (see formulas) is excellent when there is a decided lack of tone to the system. The bowels should be kept regular by the use of mild laxatives, but harsh cathartics should never be employed.

Hygienic living is the most important part of the treatment of dyspepsia. If there is a lack of proper exercise, let that be supplied at once, preferably in the open air and sunshine. If there is fatigue of mind and body, rest must be secured. In all cases an abundance of time must be given to sleep in healthful rooms. It is usually most beneficial to arrange for traveling—a change of surroundings being of great value to the nervous system.

Cheerfulness is the foe of dyspepsia. Laugh and grow fat is an old adage of much truthfulness. Good companionship and contentment are unequalled nerve tonics. Dyspeptics must learn to look upon the bright side of life. It is a difficult thing for them to do, but their friends should aid them in this respect.

The old idea of starving out the dyspepsia is a most erroneous one. As a rule dyspeptics should eat more than the usual amount of food. The nerves need extra nourishment in their impoverished condition. Such articles of diet must be eaten as agree best with the individual. In nearly all cases tea and coffee, starchy foods in excess and pastry are not beneficial; while rare meats, fruits and vegetables, cereal coffee and entire wheat bread will be found most acceptable. Milk is also good, although fluids should not be taken excessively where the digestive powers are feeble. Alcoholic liquors of all kinds should be avoided.

DYSPHAGIA.

Difficult Swallowing.

This is also called *Œsophagismus*, and is a spasmodic contraction of the *œsophagus* or gullet which

renders swallowing of food or liquids difficult, if not impossible, at times. It is a spasm of the glottis, or a convulsion of the circular muscles of the gullet and is due to nervous conditions, of which it is a symptom. Adult females are the usual sufferers. Sexual derangements and stomach troubles are often causes, and it may also occur as a distressing complication of hydrophobia and lockjaw. An attack usually lasts but a few minutes, though occasionally it may continue almost constantly for days, seldom interfering with capacity for receiving sufficient nourishment during intervals.

Treatment.—The real cause of the nervous disorder must be sought out and treated appropriately. During an attack, if severe, put the feet in hot water, rub stimulating liniment over the stomach and spine and endeavor to use small doses of infusion of lobelia and turn the thoughts to other subjects. If such attacks are frequent, constant use of cramp bark and scullcup will be found beneficial. Dysphagia may be caused by pressure or obstructions of aneurisms, tumors, cancers, etc., or by lesions resulting from scalds or the swallowing of acids, or irritating or corroding lesions. Their treatment will be found elsewhere.

Dyspnoea.—*Difficult Breathing.*—This is more often a symptom of disease than a malady of itself. It may occur under various circumstances, such as choking, œdema or swelling of the glottis, heart troubles, asthma, pneumonia, bronchitis, aneurism, laryngitis, paralysis, etc. It is spoken of in the articles upon these subjects.

DYSURIA.

Difficult Urination.

This is frequent in all inflammations of the urinary tract. When the urine is passed most easily while in the recumbent position, stone in the bladder should be suspected, or else forward displacement of the womb, or obstructions in the rectum. When it becomes nec-

essary to press upon the bladder to evacuate it, paralysis of the organ is apparent. When it becomes necessary to separate the limbs and lean forward, enlargement of the prostate gland is probable. Great straining at urination may mean inflammation of the bladder (cystitis) or poisoning from various drugs. Dysuria is more fully considered in connection with the various diseases with which it is associated, and also in the section on Diseases of the Generative Organs.

EAR SYMPTOMS.

Observations in Relation to Disease.

Redness.—*Red and swollen ears* may be due to eruptions and erysipelas. *Constant redness* is usually due to abdominal disturbances, piles or menstrual irregularities. *Transient redness* may precede apoplexy, bleeding of the nose or delirium, or may be due to mental emotions. *Intense redness* is usually associated with inflammation or congestion of the head or ears. In new born children it is a sign of premature birth.

Heat.—The ears become hot in all inflammations about the head and in laryngeal difficulties and sometimes during indigestion.

Coldness.—During nervous prostration or when there is loss of blood, or during chills or convulsions, the ears will be cold. Before hysterical attacks the ears grow cold. Anæmic persons and those of feeble constitutions habitually have cold ears.

Swellings.—Scrofulous persons are subject to swelling of the ears. The condition is also frequent during Bright's disease, and in low forms of blood poisoning.

Discharges.—*Pus* may come from the ears as a result of inflammation of the membranes or of abscesses

in the ear. In some cases abscess of the brain may discharge through the ears; but other symptoms will be prominent. Sometimes, from chronic inflammations, especially in scrofulous persons, the ear-wax may become very thin and constitute an offensive discharge. *Bloody discharges*, following injuries, is usually an indication of fracture of the skull. When not following pronounced injury it may be caused by severe coughing or straining or retching. Concussions of the atmosphere by loud music or explosions or shrieking in the ear may likewise be followed by a slight flow of blood. It is not uncommon for persons of the hemorrhagic diathesis to have bloody discharges from the ears when they climb high mountains, where the air is extremely rare.

Earache.—This may be relieved by dropping in the ear some warm tincture of lobelia or oil of lobelia.

Ear Diseases and Injuries.—These are fully considered in the section on Diseases of the Eye and Ear.

Ecchymois.—See article on Bruises.

ECHINOCOCCUS.

Dog's Tape Worm.

This tape worm of the dog very much resembles the ordinary tape worm (*tænia solium*) of human beings. It has the same kind of a head, but only four segments, and is rarely over half an inch in length, and usually less. The embryo of this worm is discharged from the bowels and may cling about the anus, causing itching, which the animal relieves by licking, thus getting the embryo on the tongue. It is easy to realize how the embryo may be conveyed to children or others who fondle dogs and possibly allow them to lick their lips or eat out of their dishes. The terrible conditions brought about by this embryo becoming fastened in the human body and developing there should make all who are aware of the facts most care-

ful in regard to their associations with dogs. The Esquimaux are frequent sufferers from *tænia echinococcus*.

After the embryo reaches the human stomach it will enter the intestines and possibly be discharged with the feces; but it may be conveyed into various tissues of the body and becoming lodged, form a cystic tumor. The liver is a favorite locality for this tumor, which may become as large as a nutmeg-melon.

The construction of the cyst is peculiar. On the inner surface of the cyst develop numerous other cysts and upon their inner surfaces develop still other cysts. These are respectively spoken of as parent, daughter and grand-daughter cysts. The inability to completely evacuate them becomes apparent.

If the cysts are on the liver they cause great obstruction and may press against the stomach and diaphragm, and crowd the lungs and cause death. Or they may suppurate, and should then be treated as abscess of the liver. *Echinococcus* may develop in the muscles or upon the spleen or even the brain. In all cases they should be regarded as tumors. The administration of remedies can be useful only to relieve symptoms. Surgical interference may be valuable in some cases.

ECTHYMA.

Large and Isolated Pustules.

This is a skin difficulty arising directly from local irritation, such as particles of lime or caustic or sparks of hot iron falling upon the skin, and indirectly from impure blood or impoverished conditions of the system.

Symptoms.—The skin becomes red and swollen and widely scattered pustules appear, about the size of a pea. Most frequently these are on the neck, chest, limbs or buttocks. They contain yellow, purulent material, often darkened by blood, and in a few days dry up and leave a rough scab, which usually falls off without leaving a scar. During the pustular stage

there may be fever and intolerable itching and stinging pain.

Treatment.—For the blood use the compound syrup of yellow-dock (see formulas), and locally apply witch hazel ointment. If the pustules degenerate and the surrounding tissues become dark or purple, paint them with compound tincture of myrrh. Keep the bowels open with mild cathartics.

ECZEMA.

Tetter. Salt Rheum.

These names have been applied to various forms of an inflammatory condition of the skin which may be acute or chronic in its character, and may occur at any age of life.

Symptoms.—Moist eczema, of the acute form, commences with redness of the skin and itching, and within two days very small pimples form which become filled with a clear and yellow fluid. In a week or ten days these vesicles form into pustules which dry up, leaving brown crusts, often sticky about the edges, and these may come away and leave an itching red spot covered with scales. In some cases instead of pustules being formed, the pimples may dry up and leave scales, or they may burst and leave little red points from which fluid oozes. In any of these forms acute eczema may last two or three weeks only, but usually successive attacks follow one another, and the acute form may become chronic, having the same characteristics. Eczema presents very little evidence of constitutional disturbance beyond slight chills and usually constipation.

Treatment.—The bowels must be regulated and proper nourishment and hygienic surroundings provided. No stimulants or alcoholic liquors should be allowed. Soap must not be used, but in its stead a teaspoonful of borax in a bowl of water is best for washing. During the first stages use an ointment of

goldenseal and borax rubbed in vaseline. When the crusts form, poultice the parts with thin poultices of flax-seed, sprinkled over with lobelia, ginger and goldenseal. When the poultices are removed and the crusts are gone, wash the parts with distilled extract of witch hazel, alternated each day with a wash of the colorless fluid hydrastis and glycerine, equal parts. Often when the surface itches and is hot an ounce of powdered oxide of zinc, mixed with four ounces of lycopodium, makes an excellent powder to dust over it. Compound syrup of gentian (see formula) is a most serviceable internal tonic.

ELEPHANTIASIS ARABUM.

Hypertrophy of the Skin.

This is an enlargement of the skin, usually of one or both lower limbs, or of the external genitals; occasionally elephantiasis of the ear, nose or arms may occur. It may last through life, though a few cases have been benefited by treatment. It usually commences as an erysipelatous inflammation of the skin occurring in a series of attacks, with considerable constitutional disturbance—fever, pain, etc. Finally the inflammation subsides, leaving permanent swelling. The skin gradually becomes enormously thickened, sometimes dark, smooth and glassy, occasionally roughened. The lymphatic glands may enlarge, suppurate and discharge. Pain may be present, and external sensibility may be almost entirely lost.

Treatment.—Rest and massage and frequent baths are beneficial. Bandages to compress the limb are often resorted to. Internal administration of sulphur—in teaspoonful doses, in glycerine—twice a day, is the best medication. Electricity may be employed to advantage.

Elephantiasis Teleangiectodes.—This condition is almost identical with elephantiasis Arabum, only it arises without inflammation and is usually congenital.

Also the muscles of the affected limb may become shrunken, and the skin may enlarge and form flaps.

Its treatment is the same as given for elephantiasis Arabum.

Emaciation.—*Loss of Flesh.*—This is a symptom of various diseases, and always denotes interference with proper nutrition. It may occur from insufficient blood, impure or poisoned blood or from nervous conditions. It is spoken of fully in the articles on the various diseases in which it is a prominent symptom

EMBOLISM.

Obstruction in the Blood Vessels.

This is an obstruction of a blood vessel, vein, artery or capillary, by a solid particle. Clots of fibrin from the heart valves or inflamed veins, or cancerous or tuberculous materials, are frequent causes of embolism. When formed by septic material, abscesses will be formed. Embolism may occur during the course of disease, sometimes with fatal results. General treatment consists in quiet and stimulation. Special treatment must be in accordance with the locality and probable diseased conditions present.

EMPHYSEMA.

Dilatation of the Air Vesicles of the Lungs.

This is a strained and dilated condition of the air vesicles of the lungs. It is usually a disease of old age, more frequent in men than women, and more liable to occur to those who are continuously exposed to circumstances favoring coughs and lung troubles. It may be concurrent with enlargement of the heart, aneurisms and tumors. Occasionally emphysema commences in childhood and continues until old age.

Symptoms.—Difficulty of breathing and smothering sensations. Air is readily inhaled, but it goes out

from the lungs very slowly, causing an extraordinary fullness of the chest. Patients are short-winded and often think they have asthma; though in asthma there is difficulty of inhaling air, and in emphysema, of exhaling it. Attacks may come on spasmodically. Prolonged cases are apt to cause hypertrophy of the heart, congestion of the head, causing livid countenance, swelling of the hands and feet and general dropsy. An absolute cure can scarcely be expected except in mild cases, though fatal results are not anticipated unless other forms of severe lung troubles exist.

Treatment.—Avoidance of all surroundings and circumstances having a tendency to produce bronchial irritation is of first importance. There must be only moderate physical exertion, and the diet must be light. Associated lung troubles must be treated appropriately. Probably the most efficient means of relief for spasmodic attacks will be the internal administration of two drops each of third preparation of lobelia (see formulas) and fluid extract of broom weed (*amphiachyrus*). An apparatus has been constructed for emphysema patients whereby they are enabled to inhale from a vessel containing compressed air, and exhale into a receptacle partly exhausted of air, which literally sucks out the air otherwise retained in the dilated vesicles. This operation may be repeated three or four times a day, using the apparatus from ten to thirty minutes each time. If the heart shows symptoms of weakness it should be sustained by giving a grain each of capsicum and sulphate of hydrastia in capsule twice a day.

Empyema.—*Suppurative Pleurisy.*—This is a form of pleurisy also known as pyothorax, in which there is an exudation of pus and serum. It is fully considered in the article on Pleurisy.

Encephalitis.—*Inflammation of the Brain.*—See article on Brain Diseases.

ENCEPHALOCLE.

Hernia of the Brain.

Infants may be born with a protrusion through one of the sutures of the skull of a portion of the membranes of the brain containing brain substance. This is readily recognized; it is bluish in appearance and pulsates with the brain. It is extremely sensitive and rough handling may cause convulsion. It is usually accompanied by dropsy of the brain (hydrocephalus) and rarely recovers. The tumor should be carefully protected by placing about it a broad ring of several thicknesses of soft flannel and then covering the tumor itself with absorbent cotton saturated with witch hazel extract, and securing all with a proper bandage.

Enchondroma.—These are cartilaginous tumors, usually non-malignant in character, although sometimes becoming malignant. See article on Tumors.

Endometritis.—This is an inflammation of the inner structures of the womb, fully described in the section of Diseases of Women.

Enteralgia.—*Neuralgia of the Intestines.*—This is considered in the article on Colic.

ENDOCARDITIS.

Inflammation of the Heart's Lining Membrane.

During a severe attack of articular rheumatism, or in the course of Bright's disease or acute infectious troubles, such as scarlet fever, measles and child-bed fever, the poisonous irritant, whatever may be its character, may set up an inflammation of the lining membrane of the heart. The symptoms will be a sense of discomfort accompanied by palpitation, the heart beat being hard at first and then becoming weak. If due to septic poisoning, there will be chills, irreg-

ularly occurring perspiration, prostration, pinched countenance and diarrhœa.

Treatment should aim at soothing and sustaining the heart's action and eliminating the irritating poison. During an attack a weak infusion of Virginia snake-root in small doses, by the stomach, and injections of boneset and lady-slipper infusion are most beneficial. If severe distress is felt about the heart hot applications or stimulating liniment may be made over the chest. If of rheumatic origin, citrate of lithia, three grains, in a glass of water, should be taken three times a day. The bowels must be kept regular, and tea and coffee and alcoholic drinks prohibited

Enteritis.—*Inflammation of the Intestines.*—See article on Bowel Troubles.

Enterocoele.—This is a falling of a portion of the small intestines into the pelvis, causing a tumor-like bulging into the vagina. It occurs sometimes as a result of straining during labor. To restore the portion of intestine to its proper place the patient should kneel and rest on the shoulder and have the tumor pressed back. This must be followed by perfect rest and vaginal injections of infusions of raspberry leaves or other astringents.

Enuresis Nocturna.—See article on Bed-Wetting.

Ephelides.—See article on Freckles.

Epididymitis.—See section on Diseases of the Generative Organs.

EPILEPSY.

Fits. Falling Sickness.

This disease is caused by unknown changes in the brain, brought about by diseases of the brain itself or by diseases that affect the brain. It may be heredi-

tary in character. The severe form of epilepsy is also known as *grand mal* or *convulsive epilepsy*. It consists of paroxysms of muscular convulsions of a severe nature, usually preceded by premonitory symptoms and usually followed by great nervous prostration.

Symptoms.—Epileptics usually notice peculiar sensations just preceding an attack which serve as warnings. One or more of the following premonitory symptoms may be noticed: Sudden diarrhœa or constipation, unaccountable disturbances of the stomach, twitchings of the muscles, headache, dizziness, hallucinations, creeping sensations over the body, a feeling as though air were blowing over the body (called *aura*), great thirst or ravenous hunger, sense of constriction about the heart, involuntary discharges, sudden perspiration, bright flashes before the eyes, experience of unnatural taste, or smell or hearing, bleeding at the nose, cramps, chills, etc.

Knowing these premonitory symptoms, persons may situate themselves so as to avoid injury or inconvenience during an attack, or the attack itself may possibly be averted. For instance, if sudden constipation is a premonitory sign, physic may ward off the attack. If there are creeping sensations or *aura* of the limbs, tying a band tightly about the thigh may be advantageous. If there is stomach disturbance an emetic may be of service, etc.

Sometimes an epileptic seizure is preceded or followed by violent delirium, during which the patient becomes actually insane and irresponsible, and may commit serious injury to others. Such acts are not afterward remembered by the patient.

The convulsive paroxysm itself comes on suddenly, usually with an involuntary outcry. Consciousness is lost instantly, and the victim falls, usually forward, not even stretching out his hands to break the fall. Often serious injuries are inflicted by striking objects. At first the face grows deadly pale and the eyes are rolled upward, the mouth may be opened or tightly closed, the fists clinched and the body rigid. This

condition may last from a few seconds to half a minute, when the actual convulsions commence.

During the convulsion period the eyes roll about and every muscle in the body seems to alternately relax and contract, the face flushes, and then, as respiration is interfered with, it grows livid and the whole body has a bluish look and the veins become greatly distended, the saliva rolls out of the mouth, usually mingled with blood from the tongue cut by the teeth, and there may be involuntary discharges from the bowels and bladder. The pupils are dilated and do not respond to light; the pulse at the wrist is extremely feeble, though the heart's action is usually violent and spasmodic.

These terrible convulsive symptoms last from three to six minutes, rarely over ten minutes, and then cease suddenly. Consciousness returns slowly, perspiration is abundant and there may be vomiting and a profuse discharge of urine. Lividness of the countenance may continue for some time. The victim looks bewildered and attempts to rise but has no knowledge of what has transpired. He is extremely weak and may go into a sleep of an hour or more. Usually there is mental dullness for days after.

The frequency of paroxysms varies. There may be several in one day; they may occur periodically or at any time. Persons may go for weeks, months or years without an attack and then have several in rapid succession.

Epilepsy is not always inconsistent with long life and comparative freedom from disease. Cæsar, Peter the Great, Mahomet, Napoleons I and III, Charles V, Byron, Isaac Newton and many other noted men were epileptics. As a rule victims of the disease gradually lose mental and physical vigor to a greater or less degree. If it is caused by any special known trouble which may be removed, there may be a chance of recovery; but persons who inherit epilepsy or have it manifested late in life have little ground for hope.

A mild attack of epilepsy, called *petit mal*, is characterized by sudden loss of consciousness, lasting but a moment or so. If the person is talking he stops perhaps in the midst of a sentence as though to take

breath; his face becomes pale and then dusky, and this is followed by confusion of mind and forgetfulness of what is said or done; there may be dizziness and sensations of suffocation.

Sometimes a peculiar form of epilepsy manifests itself by the patient suddenly committing some unusual or indecent or violent act in the presence of others, and afterward retain no recollection of it. Such acts are usually of short duration, though in rare cases the person affected may thus conduct himself for days.

Treatment.—During an attack, nothing can be done beyond loosening the clothing, turning the patient on the side so as to allow the saliva to escape, and putting a piece of hard wood between the teeth to hinder injury to the tongue. Should the fit continue beyond all reason, cold water may be dashed in the face, or a warm bath given, followed by dashing cold water over the body, mustard plasters over the back, and perhaps electricity.

Immediately after the seizure the patient should be placed in bed and allowed to sleep quietly; though many prefer to go at once about their usual callings.

Between the paroxysms the greatest care must be exercised concerning diet and hygiene. Frequent and regular exercise in the open air, freedom from mental exertion and study, comfortable clothing, avoidance of all excesses, abstinence from tea, coffee and alcoholic drinks and vicious habits, daily baths with friction and a light and nutritious diet.

Precautions must be taken against seizures occurring in dangerous places. Sometimes attacks come only at night and are known only by the resulting prostration. The bromides are frequently used to lessen the violence of the attacks, but they only do so by injuring the nervous system. Medication must be directed to the apparent troubles incident to individual cases.

As a general tonic and equalizer of the circulation of value in all cases the following will be found excellent: Sulphate of hydrastia, lobelia seed and cypripedin, each one grain, taken in a capsule morning

and evening, and every two hours for a day preceding the attack if premonitory symptoms can be relied upon.

Epistaxis.—See article on Bleeding of the Nose.

Epithelioma.—*Epithelial Cancer.*—See article on Cancer.

EPULIS.

Tumor of the Gums.

As a rule the term *epulis* is given to a cancerous or sarcomatous tumor of the gums, though occasionally non-malignant epulis is met with, pushing out the teeth by its enlargement. The only successful treatment is a surgical operation for the removal of the portion of the jaw-bone from which the tumor starts.

EQUINIA MITES.

Grease.

This is a painful malady contracted from horses suffering from grease, which is a peculiar affection of the glands of the skin about the heels of the animals, characterized by offensive discharges from ulcerating sores. This discharge is poisonous and coming in contact with the human skin may produce eruptions in the form of pustules surrounded by purple and swollen areola. These pustules form in about a week and last four or five days, and then form a scab which leave deep scars. The whole system is affected. There is fever, high pulse, prostration and heavily coated tongue with chilliness and flushes of heat.

Treatment.—The eruption is relieved by soothing applications of pulverized myrrh and lobelia seeds rubbed up with vaseline. The bowels must be moved freely by the liver pills, and composition infusion must be drank abundantly. Convalescence is slow and must be encouraged by nourishing foods.

ERGOTISM.

Bread Poisoning.

Occasionally wheat and rye become mixed with the poisonous smut known as ergot, and serious results follow the eating of bread made from such flour. Whole communities have suffered outbreaks of the disease.

Symptoms.—There may be slight fever at first. Peculiar burning and itching sensations, with redness, commence on the feet, extending often to the legs and also appearing on the fingers, hands and arms. In about a week's time the burning sensations suddenly cease and the parts become cold. The affected portions grow dark and look like burnt charcoal, an actual gangrene setting in. Sometimes there will be alternate spells of convulsions and drowsiness, pain in the heart and feelings as though the joints were being pulled apart. Stupor may precede death, or recovery may occur in a few weeks.

Treatment.—These cases must be treated similarly to gangrene (which see), though the bowels will probably need frequent doses of neutralizing cordial; and gum Arabic or marsh-mallow root infusion should be used with drinking water to soothe mucous surfaces. The application of stimulating liniment to unaffected portions near the gangrenous spots may aid in arresting their spreading tendency. "Foot and mouth" disease of cattle is undoubtedly very similar to ergotism.

ERUPTIONS.

General Eruptive Diseases.

As a rule acute diseases accompanied by eruptions (not skin diseases) are marked by more or less fever and run a definite course, and seldom occur to an individual more than once in a lifetime. Measles, scarlet fever, rotheln, small-pox, chicken-pox, etc., are types of eruptive diseases, and are fully considered under their respective titles elsewhere. In all eruptive dis-

eases the darker the rash appear the more serious is the difficulty.

ERYSIPELAS.

St. Anthony's Fire. Rose. Cellulitis.

This is an inflammatory condition of the skin and the areolar tissue beneath it, accompanied by constitutional symptoms. It is usually preceded by disordered conditions of the system and may follow injuries or surgical operations, causing serious results.

Symptoms.—Severe cases are ushered in with a most decided chill, quickly followed by a high fever, the temperature probably reaching 104° in the course of half an hour. There is pain in the back and limbs, headache, nausea and vomiting, furred tongue, frequent and strong pulse and before long a burning, itching and heavy feeling at the seat of the difficulty, which in a day or two becomes swollen and red. The color of the eruption is usually rose, turning to dark red. The inflammation travels like a fire on the skin, leaving behind it signs of destruction. Mild cases may stop at this point and recovery follow in a few days. Generally, though, blisters will form at the place of inflammation, and swelling become great. If about the eyes, which is common, they will be closed and extremely painful. Fever continues unabated as a rule, and there may be delirium and great prostration.

Phlegmonous erysipelas is a low grade of the disease, giving a dark red eruption and the formation of abscesses, and the infiltration of pus through adjoining muscular structures. The prostration in such cases is very marked and may amount to stupor; the pulse weakens and lung complications or a typhoid condition may set in.

Convalescence is preceded by a rapid fall of temperature to the normal, a clean tongue and natural secretions. The eruption fades and may turn yellowish or bluish, and the dead skin eventually peels off. Some-

times the hair falls out and is soon succeeded by a new growth.

Mild cases are very seldom fatal, and all cases except those occurring in persons diseased or weakened by excesses, give favorable hopes of recovery.

Treatment.—Fresh air, without draughts, cleanliness, equable temperature and quietude are essential. Saturate cloths in an infusion of lobelia and goldenseal containing an ounce of glycerine and an ounce of hyposulphite of soda to the pint, and apply to the inflamed portions. If the color is dark, add compound tincture of myrrh. Move the bowels by a dose of liver pills. Keep the skin moist by giving every hour a free drink of pleurisy root and ginger infusion; in severe cases add composition to this. When there is much nervousness administer injections of boneset and lady-slipper in infusion. A stimulating emetic (see emetics) will be valuable if administered early. Diet should be nourishing and very light; liquid foods are preferable. Allow the patient to suck lumps of ice; give no lemonade or sour fruits, but supply milk if desired. Keep inflamed portions from the air.

ERYTHEMA.

Erythematous Rash.

Disturbances of circulation, irregularities and other causes of obstruction often produce a rash over the body of dull-red patches, irregular and slightly raised, chiefly occurring on the backs of the hands and feet, and seldom extending over the limbs or body. This rash is not accompanied by fever or other constitutional symptoms, lasts but a few days and usually leaves slight roughness or disquamation of the skin. One attack may be soon followed by another.

When indigestion is the cause of erythema, the rash frequently comes on the face and itches and burns. Occasionally small vesicles or papules are formed. Infants are especially liable to erythema. The difficulty needs no treatment of itself, but the particular disturbance should be sought and corrected. As a

rule there is acidity of the stomach and constipation which may be overcome by milk of magnesia.

ERYTHEMA NODOSUM.

Oval Swellings.

This disease consists of successive crops of oval swellings over the body, chiefly on the fronts of the legs; usually at least a dozen of the swellings appearing at once. They may be from one-fourth of an inch to five inches in length; at first are hard and pink, but become soft and dark red, like bruised spots; and as they disappear they leave a yellow stain, which slowly fades. There is local tenderness and pain while the swellings last, and the stomach becomes very sensitive. Prostration of the system is pronounced, accompanied by the symptoms of anæmia. An attack of erythema nodosum rarely lasts over five weeks; sometimes much less, as there may possibly be but one crop of swellings.

Treatment.—This malady will disappear of itself without medication; but relief can be obtained, the strength supported and the duration shortened by appropriate means. Keep the bowels open by the liver pills, aid digestion by teaspoonful doses of elixir of peptenzyme or pepsin after meals, and administer compound gentian syrup as a tonic. Over the swellings apply witch hazel extract at first, and diluted compound tincture of myrrh with fluid extract of goldenseal as the parts become darker.

ERYTHROMELALGIA.

Superficial Neuralgia of the Extremities.

This is a peculiar condition of the extremities depending upon irritation or exhaustion of certain nerves (vasomotor). The usual form is that of irritation, frequently observed in washerwomen who keep their hands in cold water a great deal of the time. There are burning pains in the fingers and toes and limbs, and sometimes stiffness, swelling and partial

loss of sensitiveness. The pulse becomes small and the face pale and clammy. Such spells are brought about by exposures to cold. Occasionally the paralytic form is met with in men, especially rheumatics and metal workers. Pains are usually confined to the feet, and the surface is hot and the suffering increased during warm weather.

Treatment depends largely upon ascertaining the cause and avoiding it; using nourishing diet and hygienic measures and the application of electricity, together with internal use of strong tonics such as compound syrup of gentian (see formulas).

Eustachian Diseases.—The eustachian tube, leading from the throat to the ear, is liable to various difficulties—inflammations, congestions, etc. These are all fully considered in the section on Diseases of the Eye and Ear.

Eyelid Diseases.—See Diseases of the Eye and Ear.

Excision.—This is a surgical operation comprising the removal of a bone or a portion of a bone, without amputating the limb. It is frequently resorted to in cases of diseased or decayed bone. It is often preferred to amputation, especially at the elbow or wrist. It is safer than amputation at the shoulder and hip, though more dangerous at the knee joint.

EXOSTOSIS.

Bony Tumor.

This is a bony growth of spongy or dense character usually upon the bones of the arms or legs at their prominences if spongy in character, or if dense they are more frequent on the bones of the face or skull, the shoulder blades and the great toes and thumbs. They vary in size, often being as big as a hen's egg,

or larger. Sometimes they are painful, especially upon pressure, though as a rule they cause no trouble beyond inconvenience. They can be removed only by surgical operation, and this should not be performed unless the tumors are unsightly or, of great inconvenience.

Exophthalmic Goitre.—See article on Goitre.

FACE SIGNS.

Aspects of the Countenance in Disease.

Much may be learned concerning the nature and gravity of diseases by the appearance of the countenance. The following points of interest may be observed:

Wrinkles in the old are natural, but premature wrinkles always denote improper or deficient nutrition. Youths with wrinkled faces are usually masturbators. Infants with wrinkled faces are suffering from diseases which prevent proper assimilation of foods.

Sunken countenance always denotes exhaustion. It is a bad sign in the early stages of a disease. In painful diseases it may simply be the result of loss of sleep or intensity of suffering. Ordinary diarrhœa may be sufficiently exhausting to produce a sunken countenance, as also may dyspepsia.

Blotches are usual accompaniments of bad habits or intemperance.

Doughy faces indicate kidney troubles or, when sallow, point to liver diseases.

Puffiness may be the result of various febrile diseases, as measles, erysipelas, etc., and also of poisoning. If puffiness is under the eyelids with great paleness, Bright's disease, or albuminuria should be suspected.

Paleness, if constant, accompanied by a transparent look to the skin, shows a deficiency in the amount of

red blood corpuscles, or a great increase in the amount of white blood corpuscles. Anæmia, chlorosis and kidney diseases give paleness of the face.

Hippocratic Countenance.—This is a peculiar appearance of the face indicating overwhelming prostration. It is peculiar to cholera, and is often apparent just before death, especially from exhausting diseases. It may be described as follows:

There is extreme and death-like paleness. The cheeks and temples are sunken and the bony prominences protrude; the eyes are deep sunken and rolled upward and appear dim; the nose is pointed and pinched; the ears are cold and waxy, and seem to be hollowed out; the lips are livid, the mouth partly open and the lower jaw fallen. Such a countenance is frightful to look upon and may be considered an infallible omen of approaching death.

In women, paleness is usually a symptom of menstrual irregularities. If paleness occurs suddenly during pregnancy, abortion or still-birth should be apprehended.

In children, sudden paleness about the mouth indicates abdominal difficulties, which may be simple colic, though continued paleness with bright spots on the face may indicate worms.

Sudden paleness of the nose in scarlet fever is an unpromising sign.

Redness of the face, if constant, may be due to over-eating, or apoplectic or gouty tendencies, especially if the redness is dark. Redness on one side of the face may be associated with lung, heart and abdominal difficulties. If one side is red and hot and the other pale and cold, encephalitis is apparent and pus is probably forming on the side of the brain corresponding to the redness. Brain troubles of children frequently give transient red spots. A flush of small extent on the cheeks is common in phthisis. Sudden and general flushing of the face repeated and transient in character may indicate lung troubles, or in females it may be associated with recent conception or approaching menstruation, and it is common to teething children.

Persons suffering from nervous difficulties, hysteria, etc., and those subject to hemorrhages usually have bright red faces.

Red cheeks with white looking nose should be regarded as indicative of serious illness.

Blueness of the face is usually due to heart troubles.

Yellow or sallow faces denote liver troubles, although a peculiar light lemon color and waxy look often accompanies Bright's disease.

Ashy or gray faces indicate malignant diseases, cancer, gangrene, leprosy, etc.

FACIAL PARALYSIS.

Muscular Inability of the Face.

The nerves controlling the muscles of the face may become paralyzed from various causes, among which may be mentioned injuries, operations, abscesses, inflammations of the ear, hemorrhages or aneurisms of the arteries of the brain, exposure to cold and previous endurance of infectious diseases or of rheumatism or syphilis.

Paralysis is usually confined to one side. The senses of hearing, taste and smell are interfered with, the eyes cannot be closed and the tears trickle over the face and leave the nostril dry. Motion of the one side of the face is lost, and the nose and mouth are drawn toward the healthy side. Occasionally paralysis of both sides of the face may occur.

Treatment.—Mild currents of electricity, the anode being on the protuberance behind the ear of the affected side and the cathode opposite. Rheumatic forms must also be treated with alteratives and citrate of lithia internally. Constitutional difficulties must always be appropriately treated. There is little hope of recovery when the paralysis is of specific origin. Simple cases may recover, but are liable to re-occurrence.

FACIAL SPASMS.

Rigidity and Twitchings of the Muscles.

Very frequently, on account of nervous difficulties, St. Vitus' dance, shocks, etc., the muscles of the face may be subject to spasms, or become uncontrollable.

Chattering of the teeth is due to loss of muscular control and may be caused by fright, cold, weakness or the nervous prostration of congestive conditions, chills, etc.

Gritting or grinding the teeth is usually the result of intestinal worms or other abdominal irritations; but it may be caused by direct brain irritations and is not infrequently associated with habits of self-abuse.

Lockjaw is due to intense nervous disorder caused by blood poisoning and may follow serious injuries or be present during the existence of cancer or other malignant troubles.

Twitchings on one side of the face are due to difficulties of the facial nerve.

Faecal Abscess.—See Appendicitis.

FAINTING.

Syncope. Loss of Consciousness.

This is an insufficiency of blood in the brain caused by failure of the heart to perform its function properly. It is brought about by mental or physical disturbances conveyed through the nervous system. Among the causes may be mentioned fright, sudden emotion of joy or sadness, the sight of blood, looking upon unsightly objects, injuries, etc., falls, blows (especially blows upon the pit of the stomach), running, exertion on an empty stomach, too rapid eating, a close atmosphere, over-study, a hot and debilitating bath, exhaustion, especially exhaustion from loss of blood or debilitating diseases.

Women are more liable than men to fainting, and persons of a highly nervous temperament, especially children, are prone to faint very easily. As a rule fainting is not at all serious, though prolonged faints are exhausting, and fainting during exhaustive diseases may be exceedingly dangerous, and is an unfavorable symptom in organic disease of the heart.

Symptoms.—Although occasionally a person faints without warning, as a rule there are pronounced premonitory symptoms, such as blurred vision, ringing in the ears, dizziness and nausea, cold sweat on the forehead and paleness and weak pulse. Persons accustomed to fainting recognize these symptoms at once and are usually enabled to ward off actual syncope by lying down on the back, or getting fresh air or wetting the forehead with cold water or smelling ammonia or salts.

During complete faint the patient loses all consciousness and falls, becomes deathly pale, with dilated pupils, and the heart is weak, frequent and irregular. Occasionally there are involuntary discharges. In from half a minute to three minutes consciousness returns gradually, the patient seems confused for a short time and is very much exhausted.

In severe cases the heart beats may be almost imperceptible and there may be slight muscular twitchings. Persons exhausted by disease may pass from one fainting spell into another and death soon follow. Too great precautions cannot be taken to prevent such occurrences during typhoid fever, malignant diphtheria, hemorrhages, etc.

Treatment.—Immediately lay the patient on the back without a pillow, dash a little cold water in the face, apply ammonia or smelling salts to the nostrils, loosen all tight clothing, especially about the neck. Place in a draft or supply an abundance of fresh air, or fan gently, and rub the limbs upward. If the person can swallow, give a few drops of compound spirits of lavender or other diffusive stimulant in water. In severe cases third preparation of lobelia or compound tincture of myrrh (see formulas) should

be given, and stimulating liniment applied over the heart and rubbed on the limbs. Mustard plaster over the heart is serviceable.

When medicine cannot be administered by the mouth, injections of ginger infusion should be given. Persons accustomed to fainting should take every precaution to avoid it, and should build up the nervous system by proper tonics and nourishing food and hygienic measures. Often turning the thoughts suddenly upon some object will arrest a fainting spell when the premonitory symptoms are first experienced.

FALLOPIAN DISEASES.

Affections of the Fallopian Tubes.

The fallopian tubes lead from the womb toward the ovaries, their diameter is about that of a broom-straw, and they are embedded in the broad ligament; thus they are readily obstructed and their inflammation is apt to result in peritonitis. Injections of cold water into the cavity of the womb, gonorrhea and inflammation of the womb by abortion or otherwise may cause inflammation of the tubes, resulting in great tenderness and intense pain in the region. It is a dangerous condition and must be treated as peritonitis (which see).

Dropsy of the tubes may be caused by retention of menstrual fluid, pus or mucus. The enlarged tube may usually be felt. Vapor baths and the external application of stimulating liniment should be employed. The surgical operation of aspiration is often resorted to with beneficial results.

Stricture of the tubes may be a result of peritonitis. One or both tubes may thus be entirely closed. If both are closed the person becomes sterile.

There is no effective treatment for the condition of stricture. These troubles are more fully considered in the section on Diseases of Women.

Famine Fever.—See article on Relapsing Fever.

Farcy.—See article on Glanders.

Fatty Degeneration.—In some persons of peculiar tendencies and also in many suffering from disturbed nutrition, especially elderly persons, the food taken into the system produces an excessive amount of fat, which collects about organs, and also causes degenerations of the organs themselves. The heart, kidneys, liver, spleen, etc., are all subject to fatty degeneration, the symptoms of which are duly considered in the articles on the diseases of those organs.

Felon.—This is an inflammation which usually occurs at the extremity of a thumb or finger and results in suppuration of all the structures. A lighter form, known as run-around or Whitlow, involves only the more superficial structures. Both varieties of the disease are fully considered in the article on Whitlow.

FEAR.

Various Forms of Morbid Dread.

It is natural for human beings to entertain fear in times of danger; but often through weakness of the nervous system, dependent upon some disturbance of functions, the mind becomes morbidly afraid. Irregularities of the stomach and of the womb are most frequent causes of morbid fear. Also sexual excesses may bring about a similar condition.

As a rule sufferers realize the groundlessness of their fears, but are unable to overcome them. The condition is not associated with organic disease and is far from being a symptom of insanity. A severe fright or shock may make a lasting impression upon a human being, just as it is almost impossible to break a horse of becoming frightened every time he sees an object which once suddenly shocked him. The various forms of morbid fear are interesting and instructive.

Astraphobia is excessive fear of lightning, some persons acting like frightened babes during a storm. This fear may be inherited and all efforts of reasoning fail to overcome it in even the most intellectual per-

sons. It is very common. Sometimes it is accompanied by headache, nausea, pain, numbness and occasionally convulsions.

Agorophobia designates the morbid fear many have of visiting open places or strange localities. Many persons have been forced to return from even short trips from home on account of this fear. Often children become possessed of morbid fear and cannot go even a few rods from home unaccompanied.

Some persons are terrorized beyond endurance by tunnels or caves, and although knowing there is no danger they are in agony if forced to enter them.

Monophobia is fear of being alone. Persons are tortured when compelled to walk the streets or to remain at home by themselves.

Gynophobia is fear of women. Some men are absolutely unable to associate with women through a sense of fear, although not in any way bashful.

Anthropophobia is fear of man. Many apparently strong and healthy men are afraid to come in contact with other men in business or otherwise.

Mysophobia is fear of contamination. Persons are afraid to touch articles handled by others or to sit near strangers from fear of contamination.

Pantaphobia literally means fear of everything, and is usually applied to the dread of undertaking any responsibilities lest failure or trouble follow.

Pathaphobia or fear of disease is commonly known as hypochondriasis. This is always accompanied by disease of the stomach or liver, or some functional disorder which may be recognized and corrected. Sufferers from pathaphobia cannot be scolded or argued out of their belief that they are about to become invalids from some fatal disease.

Treatment of morbid fear must not be by argument or striving to mentally overcome foolish ideas. The

patient usually knows the groundlessness of his fears. But nervine tonics, such as scull cap and compound syrup of gentian (see formulas) should be employed. Frequent baths and massage, hygienic exercise, congenial associations and pursuits, and freedom from worry, with general diet must be provided. Stomach and liver troubles, and other functional disturbances must be corrected. In nearly all cases investigation will disclose disturbances of the procreative organs.

Febricula.—This is a condition of fever without apparent cause and of no specific origin. Fever arises suddenly and lasts but a short time, falls suddenly to normal in twenty-four or thirty-six hours, followed by free perspiration and abundant discharge of urine. Treatment is given under general fever.

FEVER.

Its Nature and General Treatment.

Fever is a sign or evidence of an obstruction in the system which hinders natural performance of functions. For many centuries, and by even the most learned, fever has been regarded as a disease of itself—a something to be overcome or cast out of the body. But modern knowledge no longer permits such an erroneous view, although many still cling to it—blindly accepting the doctrines taught them by “authority.” But inherited knowledge and transmitted learning are never progressive.

The various grades and classes of fevers are due to the great variety of obstructions that may occur and the numerous functions which may be interfered with. Let a particle of foreign material get into a piece of delicate machinery and the working of that machinery will be more or less deranged according to the character of the foreign material and its position in the machine. An excess of oil within the cylinder or a piece of cotton somewhere would interfere with the working in a manner different from the interference

occasioned by a grain of sand, and the damage caused to the machine would be different.

Upon the same principle foreign matter, or an excess of normal secretions, or an altered relationship of tissues occasioned by unnatural conditions, affect the organism and give rise to manifestations known as *fevers*. An extra degree of force is consumed in running an obstructed piece of machinery, and unless the obstruction is removed the machine itself is damaged and perhaps ruined. An extra degree of vital power is required to maintain life in an obstructed organism, and unless the obstruction is removed tissues will be destroyed and perhaps the whole organism so affected that the vital power will be unable to use it and death will follow.

Fever is *always* an indication of an increased vital effort to overcome obstructions or derangements of relationships of tissues. And the character and degree of the fever manifested always denote the extent of the derangement and the degree of increased vital resistance. Thus it is evident that during disease fever becomes a most important symptom to aid in diagnosing the difficulty and in estimating the chances of recovery. Three general grades of fever may be recognized—(1) High, (2) Low, (3) Malignant.

High Grade of Fever.—The natural internal temperature of the body is slightly over 98° F. In fever it may rise to 106°, though rarely over 105°. When the pulse, although frequent, is strong and full and regular, and the face, although dry and hot, is bright red or rosy, the fever is of a high or ardent grade, and denotes a powerful resistance made by the vital power to overcome the trouble.

Low Grade of Fever.—This is always an unpromising condition, and denotes inability of vital power to conquer the difficulty. The pulse is frequent, 125 or more, and weak and often irregular. The face, instead of being rosy, is dusky and often sallow, or pale with a red spot on the cheek. By such signs we may be informed that the accumulations which interfere

with natural performance of functions are of such a character that the vital power cannot overcome them before they prove destructive to tissues. Often the great vital effort manifested by a high grade of fever, if not sustained, becomes exhausted, and the heart and nerves grow weary and the high grade gradually changes to a low grade of fever.

Malignant Grade of Fever.—This is a form of fever accompanied by a manifest destruction of tissues. The obstructions are so great and of such a poisonous character that the vital power is compelled to yield many of the structures to chemical force, which decomposes them. Purplish spots often occur over the body, or the discharges may become very offensive. Although usually ardent at first, malignant fever becomes of the low grade as it progresses.

Warnings of Fever.—When obstructions to normal actions are accumulating and before they have reached such a state as to arouse great vital effort to overcome them, they cause discomfort throughout the organism, perhaps for several days before the fever, though in a few kinds of fever the premonitions are very slight and may be overlooked. But in the majority of cases there will be a feeling of general weakness throughout the body, a disinclination for exertion, a “good-for-nothing” or lazy feeling. The appetite becomes poor, sleep is unrefreshing and the bowels irregular; there may also be headache, and sometimes twitches of pain or aching in the muscles and joints.

Such symptoms, if observed, should be the occasion for concern. At such a time sickness might often be averted by taking a mild cathartic, or a warm bath with friction and regulating the diet. The accumulating obstructions being readily removed under such aids by the vital resistive power without any manifestations of fever. But it is a mistake to suppose that all diseases can be warded off during the premonitory stage. They can not. Nevertheless it is always wisest to heed the warnings and endeavor to avert the least disturbance.

Chill preceding Fever.—Nearly every case of fever is preceded by a chill of more or less severity, and usually the greater the chill the higher will be the fever which follows, and the longer the duration of the chill the greater the severity of the malady. Chilliness may be slight, a “creepy” feeling occurring off and on for several days, an inability to get warm under favorable conditions for warmth. Such a condition shows a general accumulation of effete material throughout the system of a poisonous character, and a tedious spell of sickness may be expected to follow. A chill always denotes a depression of the nervous system.

Again, the chill may come on suddenly and be very severe, the whole body shivering and shaking, the surface pale or spotted with purple blotches, the nails blue, the lips ashy and the skin cold, the pulse is weak and slow, denoting nerve and heart depression. The mind may be cloudy and often pain and aching through the lower part of the back and the limbs may be intense. Such a severe and sudden chill usually indicates that the sickness to follow will be severe and critical, and reach a dangerous point in a short time, or that the fever to follow will be high and the obstruction quickly overcome, unless a specific poison has entered the system.

The Stage of Fever.—Following the chill comes the reaction or the manifestation of the vital effort to overcome the obstruction that caused the chill. During the chill the minute blood vessels of the surface were contracted, therefore the external circulation was interfered with and diminished, consequently an excess of blood was forced inward. Most of the organs were found crowded by accumulations of effete material, and so the greater part of the blood which should have been at the surface, found room by crowding into the heart; this crowding distended the elastic walls of the heart and excited that organ. By elasticity it reacted and suddenly forced outward, with violence, the excess of blood. This constitutes the *reaction*, and is an important matter.

In congestive chills the recession of blood from the

surface is so great and the disturbance of the nervous system is so profound, that the heart is unable to react at once, if at all, and death may follow. Therefore the readiness with which reaction is established and the degree of its power are matters of great concern in all instances.

After reaction is established, the disturbance of equilibrium is not at once rectified, for the obstructions are not removed at once, but serve as a source of irritation to the nervous system, which in turn excites the heart to continued increased action, which if properly maintained removes the obstruction. But if the nerves are weakened and prostrated by the poisonous materials or by the profound shock of an overwhelming chill, reaction may be feeble, and increased heart action may not be sustained sufficiently to remove the obstructions and death would follow.

Here may be appropriately mentioned the folly and danger of administering poisonous febrifuges and antipyretics to overcome the fever. Aconite, veratrum and various coal-tar preparations are commonly employed. They do reduce the fever; but how do they do it? They partially paralyze the heart (in large doses they would completely paralyze it). As a matter of course the heart in such a condition is unable to perform extra work and there is no manifestation of fever. "It has been reduced." Thus does the ostrich hide its head in the sand during danger. When obstructions are to be removed, the increased work of the heart is Nature's effort at accomplishing their removal, and to render the heart incapable of extra work only increases the danger and never removes the obstructions.

Treatment during Fever.—While fever is a manifestation of increased vital effort, and is always an indication of reserve force, yet it is never desirable, because it always declares the interference with the natural performance of functions. The abatement of fever by disabling the heart for producing it is a dangerous thing, and should never be resorted to. But the abatement of fever by the removal of the obstructions necessitating the increased heart action is

always desirable and should be the aim of all treatment as soon as fever manifests itself. For should fever be allowed to continue, the strain upon the nerves and the heart itself will weaken them and make resistive power and eliminative action more and more feeble. Remove the cause of fever and the symptoms will naturally disappear. Treatment should have in view three objects: To remove the obstructions, to equalize the circulation and to recuperate exhausted tissues and organs.

In nearly every instance of fever the stomach is overcrowded with material which becomes putrefied if allowed to remain in the system undigested. The foul stomach may be known by the heavily coated tongue, and if that indication is seen, evacuation by an emetic should be resorted to at once. The various classes of emetics and the methods of administering them are mentioned elsewhere under the title of *Emetics*.

Water.—Use Nature's solvent in abundance, both externally and internally. Water permeates every portion of the body and carries away with it, when eliminated, impurities and effete materials. When the surface is dry and hot nothing will so soothe the nerves as frequent sponging with water—warm, hot or cold according to the agreeableness to the patient. If the head is disproportionately hot, bathe the feet in hot water and lay a cloth wrung out of cold water on the forehead. Allow the patient to drink copiously of water in all cases of fever; though in diphtheria the drink should be warm and no cold water applied in any way—the reasons for this will be found in the chapter on diphtheria.

Medication.—There are so many various causes of fever, depending upon the character of obstructions, that specific medication for the general term *fever* cannot be given. But under the titles of the various diseases characterized by fever will be given treatment appropriate to each case. Simply the general principles of treatment can be laid down here.

In cases with high fever, relaxing medicines should be administered. A simple remedy, as follows, may

be regarded as a typical preparation to relax the system during fever.

Take of Pleurisy Root (pulverized) . . one-half ounce.

Catnip or Spearmint one-half ounce.

Lobelia herb one-fourth ounce.

Mix, and pour upon it one pint of boiling water. Let it steep half an hour, then strain and administer two table-spoonfuls every hour until the fever abates or the patient becomes quieted.

A single teaspoonful each hour would be sufficient for a small child. If the fever is not high and there is great depression a little cayenne pepper (one-fourth teaspoonful) could be added to the above; or, with sensitive persons or children, a little ginger.

If the bowels are constipated administer an injection of boneset, made by pouring one pint of boiling water upon one ounce of boneset herb—straining after steeping. Free and natural movements of the bowels are important during fevers of all kinds. Also, free action of the kidneys is desirable; and peppermint will favor this. If diarrhœa is present during fever (which often happens), a weak injection made from raspberry leaves may be given. If there is great weakness, one-fourth of an ounce of pulverized goldenseal could be added to the preparation above, as a tonic.

Nourishment.—Food administered to fever patients should be very light but nourishing. Most people will enjoy the juice and pulp of oranges, or a baked apple. Toast is good, but too much of it constipates. Malted milk is most nourishing, and Hoff's Extract of Malt is excellent. The patient must be sustained, but great caution must be exercised, lest food is not digested properly.

Fresh and pure air, cleanliness and perfect quietude and freedom from worry are necessary. Sleep should be encouraged, and when natural should not be disturbed for the administration of medicines (cases of diphtheria excepted).

The Breaking-up of Fever.— This may be known by the skin becoming moist and soft, and the secretions becoming free. The saliva begins to moisten the mouth and the tongue clears; the bowels move naturally, warm perspiration starts out over the surface, and the kidneys act freely. Often after a fever the urine is very cloudy or muddy—laden with the impurities which have accumulated in the system. Their removal is a good sign, and convalescence usually soon follows.

FEVER—CEREBRO-SPINAL.

Meningitis. Spotted Fever.

This is an exceedingly dangerous malady, and is liable to prove rapidly fatal under even the most favorable circumstances. It is an epidemic disease, although not contagious. Communities may be affected by it at any season of the year, but as yet it cannot be ascribed to any particular class of circumstances or to any special conditions of soil, climate or atmosphere.

There may be cases of meningitis when no epidemic exists, and the disease may also follow or be a complication of other diseases, such as measles, scarlet fever and pneumonia. Single cases are apt to be the result of great mental exertion or continued worry maintained under circumstances unfavorable to the preservation of health. In army barracks, where crowding is great and proper sanitary measures are neglected, epidemics of meningitis may arise. Though, again, the disease may be widespread in most cleanly and aristocratic neighborhoods.

Meningitis is an inflammation of the coverings of the brain, and often those of the spinal cord. In acute cases the membranes enveloping the cerebrum or front portions of the brain are usually extensively engaged, and the symptoms in individual cases vary according to the locality and extent of the inflammation. Sometimes the brain itself or the spinal cord or both may be inflamed as well as their coverings. Such cases are almost invariably fatal.

Symptoms.—There are four general periods in cases of meningitis, one passing into another. These are: The *onset*, the *excitement* period, the *transition* period, and the period of *prostration*. The symptoms of each vary in character and intensity according to the peculiarity of the disease.

The *onset* of meningitis is, as a rule, very sudden. The victim may feel in the best of health at noon and be seriously sick by nightfall. Probably while sitting or while at work he will be suddenly attacked with a lancinating pain through the head, often in some one part, and darting down the back of the neck, causing him to cry out in agony. There is a consciousness that the pain is of serious import, and a feeling of impending calamity is experienced. Immediately after the first shock of pain there is chilliness, followed by vomiting, or at least severe sickness at the stomach. The patient is so terrorized by his symptoms that he loses no time in placing himself for a spell of sickness, fully realizing that no trifling difficulty affects him. In little children there is apt to be a spasm at the beginning of the disease. Should a spasm then occur in an adult it would be a most unpromising sign. In exceptional cases delirium, stupor, prostration and death may follow within six or twenty-four hours after the first acute symptoms manifest themselves.

A period of *excitement* follows the onset. All the senses become suddenly exalted. Whispered words sound loud, ordinary light is unbearable, perfumes or odors are irritating, and a touch to the body is extremely annoying. There is great restlessness, despite the fact that ease from pain is obtained only by perfect quiet, the head being thrown far back, affording greatest relief. Sleeplessness naturally follows.

Within a few hours a light fever is manifested, the temperature varying from 100° to 103° , according to circumstances. The eyes are watery and become bloodshot by looking at light. The tongue is pointed and has a light coat (in extreme cases it is dark) and it trembles perceptibly when an attempt is made to protrude it. The head is very hot to the touch, while at the same time the feet feel like ice. The urine may at first be abundant, but is soon very scanty and it is

always light colored during the period of excitement. The bowels are constipated as a rule, though very exceptional cases have a troublesome diarrhœa. These symptoms may continue for three or four days, gradually growing more intense till the merest touch to the body becomes unendurable, and walking over the floor by others seems to distract the patient. Jerking of the muscles are common and are warnings of convulsions in young people, and in grown persons they are to be dreaded. Sometimes the sensitiveness may be so great as to cause the body to become rigid upon the slightest disturbance and to be so tense as to rest upon the back of the head and the heels only.

From the second to the fifth day an eruption may make its appearance in the form of spots one-sixteenth to one-half inch in diameter. It is from these spots that meningitis derives its name of "spotted fever." Still the spots are the exception and not the rule, and they may not to manifest until death or after. They may be all the way from rose color to dark red or almost black. They are usually the result of great irritation or even destruction of the minute terminals of nerves, and the darker their color the more severe is the disease, though their absence does not indicate a light form of meningitis, as death may ensue without their appearance at all. By some these spots are spoken of as "dry nerve gangrene of the skin." They usually appear upon the chest or over the limbs, and sometimes have a gray appearance when first seen. From the second to the fifth day in most cases may be termed the *transition* period, and unless death occurs at that time the disease passes into the next period.

Prostration occurs in all protracted cases and the symptoms are very marked and are of themselves sufficient to convince the most casual observer that death is approaching. Breathing becomes irregular and often the patient moans; in children this is pitiful to listen to; the pulse frequently varies and the stroke is feeble and the volume small. The temperature varies, the hands and feet are constantly cold, and the nails usually appear blue. During sleep the eyelids remain open and a frightful look is given by the eyeballs being rolled upward. The pupils of the eyes are not

equal in size and light makes no impression upon them; bringing a bright light close to them does not cause them to contract. The tongue is dark brown or almost black, being coated with a heavy dark fur, the dark coating covering the lips and teeth as well. Paralysis, complete or partial, sets in, usually confined to some special part of the body. One side may be affected, or the body from the waist down (causing involuntary discharges), or the bowels may be paralyzed so that they cannot act at all. As a rule, swallowing will be affected, even though paralysis is not manifested elsewhere. Stupor usually sets in and death soon follows.

Convalescence after an attack of meningitis is exceedingly slow and tedious. For a period of perhaps several months the least excitement or over-exertion, or concentration of thought or worry bring on exhaustion or intense headache. The strength of children after an attack is often over-estimated, and they are allowed to overdo themselves and bring about serious results. They are subject to sudden convulsions and may cry out with pains which shoot through the head, and the prostration following may be so profound as to result in stupor and death long after recovery seemed assured.

Treatment.—After studying the symptoms, the exercise of common sense and good judgment will direct the management of a case of meningitis. It must be borne in mind that the disease is of a most serious nature, and that the greatest precautions must be taken to prevent any aggravation of symptoms.

Quietude, profound and constant, must be secured under every circumstance. Noise of any nature must be prohibited about the premises, barking dogs and disturbing cats must be removed, and a check put upon every source of disquiet. Keep the patient's room darkened, and allow but one person to enter it at a time, and under no circumstances should visitors be permitted to enter. The patient may be inclined to talk or to beg others to talk to him; such should be prohibited; say nothing whatever to him except what is absolutely necessary. Let this rule be enforced

rigidly. Remember that his sensibilities are greatly exalted, and whispering in the room, or about the house even, will prove very annoying to him. Let the door-bell be muffled and a card of warning be placed on the front door. No effort to secure quiet should be neglected.

The temperature of the room should be kept exceedingly even; but plenty of fresh air must be admitted. If winter time, let there be a fire in an open stove or grate in order to secure good ventilation. For *food*, use only most digestible substances. Gruels and sea-moss are excellent; malted milk and lactated food may be enjoyed. Do not allow much at a time, but feed often in small quantities. Sponge *baths* of warm water, especially over the spine, are beneficial; but great care must be exercised in giving them on account of the patient's extreme sensibility, and they should be discontinued if the patient becomes exhausted. Cold feet should be warmed by frequent hot salt-water baths, and a hot-water bottle or heated bricks. Procure a bed-pan, and do not allow the patient to get out of bed to attend to the calls of nature, always being sure to use a disinfectant on such occasions. During convalescence there must be absolute rest from all worry of mind and from bodily exertion.

Medicines must be simple whenever used, but do not regard meningitis or any other disease as a something to be poisoned out of the system by strong drugs. At the onset the bowels are constipated and they must be relieved. Do not use violent physic; it is not needed at any time during meningitis. Milk of magnesia is probably the best laxative to administer. Hypsulphite of soda, in teaspoonful doses, dissolved in water, will relieve the vomiting commonly present at the start. This may be given every three hours. An infusion made by putting half an ounce each of pleurisy root, lady slipper and ginger in a pint of boiling water, is excellent to soothe the nerves and soften the skin. A single teaspoonful every hour is usually sufficient. Medication by the stomach is often tiresome, and in its place injections into the rectum may be given to great advantage. In fact, they can be relied upon. The above infusion without the ginger may be

used mixed with strained barley broth, every three hours. The barley will sustain the strength. If there is a tendency to convulsions use lobelia herb in place of pleurisy root in the injections, and always have them retained as long as possible. Camomile, queen of the meadow and blue cohosh, equal parts, made into a syrup, afford an excellent tonic for convalescence. Myrrh must be used freely in the injections named above if the tongue becomes dark and the discharges become offensive.

FEVERS (ERUPTIVE).—MEASLES.

Rubeola. Morbili.

This is a disease which few escape during childhood, though it may be contracted by adults. By many it is believed to be a necessity that children should pass through a spell of measles in order to secure future good health, and they therefore take opportunity to expose them to the infection—for the disease is decidedly infectious. Such a procedure is not wise, for no child should be thrust into danger. Still children who safely pass through a spell of measles are more fortunate than those who do not, for the disease is very seldom fatal during childhood, while if contracted during adult life it is far more apt to be severe.

The disease itself is simple, and under very favorable circumstances recovery would follow naturally after measles had run the usual course. But circumstances are not always favorable. The condition of the stomach and bowels may be such at the onset that complications arise during the disease, and unless promptly attended to most serious and sometimes fatal diarrhoeal conditions arise as the result of neglect.

During measles there is always a tendency to irritation of the mucous membranes of the lungs, so that the least exposure to cold, or to uneven temperature or drafts may bring about bronchitis, or result in pneumonia, either of which is exceedingly dangerous under the circumstances.

Again, neglect to keep up a proper surrounding temperature during the period of the eruption may drive inward the excess of superficial blood along with the poisonous material constituting the eruption. This being forced inward brings about unhealthy conditions throughout the system which may continue for many years, the person never being in good health. Though many regain health as long as twenty or thirty or more years after the original attack by circumstances which cause the eruption to re-appear after so long a lapse of time.

Care, then, is the great desideratum in a case of measles. Being cautious to allow no exposure or risk from cold, and to provide cleanliness and proper diet, will almost insure speedy recovery from an uncomplicated case of measles.

Symptoms.—The *onset* of measles may be unnoticed, though as a rule there is a feeling of weariness; children do not play as usual, and there is a chilly feeling complained of, and little desire for food. Such conditions last one or two days, when the more *prominent symptoms* commence. These are: Blood-shot and watery eyes, running at the nose, sneezing and usually a slight cough, a swollen look about the face and the general indications of a cold. These symptoms last two days or more, during which time fever starts up; the temperature sometimes reaching 103°; but becoming lower at times. In severe cases the throat may be very sore and the glands of the neck swollen. As a rule the tongue is covered with a moist white fur, through which red spots may be seen. The pulse is full, strong and frequent; 100 to 140 beats per minute, according to age.

The *eruption* occurs on the fourth day of the attack, counting from the time of the chill. It makes its appearance first on the forehead, looking very much like flea-bites, and feeling somewhat elevated. These dots become of a raspberry color, and as they spread run into each other, forming little crescent-shaped blotches. From the forehead they extend over the face next, then over the chest and back, and occasion-

ally over the arms and legs, showing up at the wrists and on the feet.

Fever increases with the eruption. In twenty-four hours the raised feeling is gone, and in two days after the eruption appears on the forehead it begins to fade—leaving in the order in which it came. On the third day of the eruption it begins to grow somewhat rough, and very small scales come off. On the fifth day of the eruption and the ninth of the attack, the eruption proper has disappeared, and in its place are slight yellowish spots which remain a few days, and in some cases for a week or more. The fever abates as the scales come off (desquamation). Earache, sore eyes, and bronchial troubles are to be expected during measles and guarded against.

Treatment.—All signs point to the fact that Nature is making an effort to rid the system of some poisonous material by forcing it out through the skin. This manifest effort on the part of Nature must be our guide to treatment, which should have for its aim the aiding of this natural effort and the removal of obstacles which might prevent it.

(1.) Keep the patient warm, though not depressingly so. An even temperature in the room of about 72° is good, but the air must be fresh. Keep the room darkened to prevent irritating the sensitive eyes. Avoid drafts. Chilling would close the pores of the skin and, popularly speaking, “drive the measles inward,” as mentioned,—a dangerous condition.

(2.) Poisonous material endeavoring to get out through the surface, the skin should be rendered as pliant and open as possible. This can be accomplished simply by using the following: Pulverized white root (pleurisy root), one ounce; pulverized ginger, one-eighth ounce; pour upon this one pint of boiling water and sweeten. Give one or two tablespoonfuls every hour, according to age (not disturbing the patient in sleep) until a slight perspiration is established; then give less frequently, or only when the surface does not seem soft and moist. Some cases will need but very little. If there is much nervousness one-half ounce of pulverized lady slipper can be

added. In mild cases, in place of any of the above, simple pennyroyal or sage tea may be given. If the bowels should be constipated give milk of magnesia or syrup of rhubarb. Don't use pills for there is naturally a tendency to irritation of the bowels, which is easily aggravated. Give plenty of water (not too cold) to drink, and bathe the feet in hot water. If the eruption is slow in coming, or if convulsion should occur, give a hot bath, rubbing the surface vigorously. This treatment will suffice in nearly every case of measles, giving, for after treatment, to soothe the mucous surface of the lungs as well as the bowels, a little syrup of wild cherry.

But *complications* may arise. The eruption may become very dark, almost black, and the bowels become very loose. In such cases use composition (see chapter on formulas) one ounce, and boneset one-half ounce; mix; steep a short time in one pint of water; give two tablespoonfuls every hour until relief of symptoms is manifested. If there is any sign of collapse, such as coldness, during the dark eruption, give a large injection of the composition in starch water. Such a condition is extremely unlikely to occur.

For diarrhœa, use neutralizing cordial or syrup of wild cherry (see formulas).

For sore eyes make a weak tea of goldenseal, strain very carefully and use as a wash.

If there is great prostration scullcap (one ounce to the pint of boiling water) is most excellent taken at intervals. - Croup, pneumonia, bronchitis, etc., arising must be treated as mentioned for those difficulties elsewhere.

FEVERS (ERUPTIVE).—GERMAN MEASLES.

Rotheln. Rubella. Roseola.

This is a very insignificant disease; but nevertheless one that should be recognized and not trifled with; for slight as it is, exposure to cold or neglect might induce more serious trouble. It is not an especially contagious disease, though it appears to be epidemic at times. Indeed, it so closely resembles

scarlet fever in the appearance of the rash when it first is noticed, that many physicians make the mistake of pronouncing it scarlet fever, causing consternation and great trouble in the household. And even when the development of the case shows its nature they will not retract their first statement and admit their mistake. Thus scarlet fever epidemics are often largely composed of simple cases of German measles.

Symptoms.—There are usually no premonitory signs, but the patient suddenly breaks out in a scarlet rash over the entire body (least on the face and extremities). The eruption is rounded and slightly raised. It is often accompanied by a slight sore throat, backache and dizziness, and often a little nausea, the throat looking raw, and the eyelids usually somewhat puffed. The rash disappears, usually, inside of three days; frequently with very fine scales. At such a time catarrhal symptoms may occur, and trifling as the malady is, to catch cold then might lead to serious lung troubles.

Treatment.—Warmth, light diet and mild teas, such as spearmint or sage or pennyroyal, taken occasionally, is all the treatment necessary; and even the teas may be dispensed with if the weather is warm and there are no complications.

Having the German measles does not exempt one from afterward contracting the genuine measles. Both usually occur in winter.

Very often there is no fever at all worth noticing in German measles; and the rash may come and go for a week, giving no inconvenience whatever beyond an itching which becomes intolerable. Such cases should be sponged with hot water in which a little borax or cooking soda has been dissolved. Great care being taken to dry thoroughly and to avoid cold.

FEVERS (ERUPTIVE).—SCARLATINA.

Scarlet Fever.

There is no disease more contagious than scarlet fever, and its treacherous and fatal character makes it imperative upon parents to take every precaution to

guard against its being contracted by children; and also it becomes the urgent duty of physicians and nurses attending cases to guard against its spread to others. It is a disease which may be carried great distances. The bran-like scales or dust which peels off the body as the eruption disappears is highly poisonous. This dust may be carried on the clothing of visitors, and it may be carried by dogs or cats or otherwise, and loses none of its virulence by time. But the infection of scarlet fever may extend from the first elevation of temperature before the rash till five or six weeks afterward.

The patient should be isolated at once, and the isolation strictly maintained. Bed clothing and garments should either be destroyed or placed in water containing corrosive sublimate. After the disease, the apartment and all the furniture, bedding, etc., should be thoroughly fumigated by closing the room tightly and burning in it two pounds of sulphur. The ordinary sulphur candles are the best means for such fumigation.

There are three general forms of scarlet fever—simple, anginose and malignant—and these are subject to variations of symptoms. Epidemics of the disease are usually from four to six years apart, and one type or the other is most prevalent during any one epidemic. Unhygienic surroundings and bad living will intensify any case; it is usually mildest during summer; and some persons seem to be more liable to contract it than others. Children are the usual sufferers, and those having once passed through the disease are considered exempt from a second attack.

Simple Scarlet Fever.—*Symptoms.*—The period of invasion, that is the time intervening between the date of exposure and the first manifestation of the eruption, varies from one to ten days. During this period some very unpleasant conditions arise. A sore throat with painful swallowing will usually be noticed first. In very young children convulsions may occur. Great paleness is noticed and vomiting is often a symptom. Pain in the joints and muscles of the limbs, frontal headache, sleepiness during the day

and sleeplessness at night or bad dreams are most frequent.

Following such symptoms there may be a slight chilliness or severe chill, and a high fever may suddenly start up—the temperature reaching 103° or 104° , and the pulse rising to 120 or 135 inside of twelve hours. (Children of about ten years are here considered.) The face becomes greatly flushed, the throat becomes more tender on swallowing, the neck stiff, and the pain in the limbs intensified. A burning sensation is experienced over the body, there is great thirst and restlessness. The eyes are usually watery. Looking into the mouth, the tonsils will be found inflamed and swollen, and the tongue dry and furred (white or muddy). At the tip of the tongue and sometimes along the edges will be seen a peculiar condition resembling the appearance of a strawberry. This is known as “strawberry tongue,” and is always present in scarlet fever.

The *eruption* occurs on the second day of the fever, though occasionally on the first. It may first be seen on the upper part of the chest or on the neck, spreading on the face and then over the body. Often the face is puffy and the skin drawn, and wherever there is pressure, by lying down or otherwise, there is a bright scarlet appearance over that part of the body.

In appearance scarlet fever eruption differs from that of other diseases. Masses of little red dots, about one-tenth of an inch in diameter, and of a bright scarlet color appear somewhat profusely close together, and usually soon run together in groups, forming irregular blotches, not raised above the surface, although often a minute point is observed in the spots at first. The color of the eruption is brighter in the evening than in the morning, and is at its height on the fourth day after its appearance. Pressing upon the scarlet blotches and then suddenly withdrawing the fingers will leave a white or cream-colored mark; likewise drawing the finger-nail through a scarlet patch on the body will leave a white line.

The *temperature* during the period of eruption may reach 104° , or even 106° (110° has been known), the skin will be hot and dry, and a burning and itching

sensation will be experienced; while the eyelids, face, hands and feet are liable to be very puffy.

The *pulse* frequency may reach 140 or 150 beats per minute. Its character depending upon the vital resistance of the patient.

The *stomach* during the eruptive period is very sensitive, and a disagreeable sensation is complained of, as a rule. If there has been no vomiting at the commencement of the attack, there is liable at this stage to be a peculiar "thumping in the stomach" experienced which is very annoying.

Fading of the eruption usually commences on the evening of the fourth day, and by the evening of the sixth day a complete disappearance of the eruption may be expected. The *temperature* now falls, often rather abruptly, to about 99° or 100°; sometimes to the normal and occasionally not below 101°, especially if there are complications to retard the natural recovery.

The frequency of the *pulse* in typical cases decreases with the temperature, though the volume may not be full—the fever having produced some prostration.

Peeling of the cuticle (desquamation) commences on the seventh, eighth or ninth day after the first appearance of the eruption. Thin bran-like particles are plainly manifest coming off of the skin; sometimes they are very abundant, and masses of them cling together, forming apparent scales. They are very light and fluffy and for that reason the greatest precautions must be taken to prevent their being scattered over garments or being blown by drafts into other apartments while opening the doors. This desquamation process goes on for one or two weeks, frequently successive layers of cuticle being peeled off.

The *kidneys* are liable to be troubled during the period of desquamation. They become engorged with blood and are inflamed, almost as though the scales were present in the tubes. It is at this period that kidney difficulties may have their origin; likewise conditions may now arise which will later on, after recovery seems established, terminate in a sudden and frequently fatal dropsy. The relief from violent fever and the rapid fading of the eruption should not deceive the patient or nurse into thinking the danger past.

Indeed, the greatest period of danger has just commenced, and too great vigilance cannot be exercised against cold, over-eating and over-exertion. Muddy *urine*, abundant in quantity, should now be noticed, and should be regarded as a good sign.

The *bowels*, which have been usually constipated during the period of eruption, become free during desquamation; probably amounting to diarrhœa.

Such are the general symptoms of a *simple* case of scarlet fever. Occasionally the disease appears in even a milder form, but all the symptoms mentioned may be noticed, although they may not be marked. Indeed, cases may occur where the patient does not feel it necessary to be in bed more than a day or so. Nevertheless, the greatest precautions must be taken in even the lightest forms. The treatment here given is for a typical case of a child aged about ten years. In younger children quantities may be lessened, or they may be increased for adults. Always judgment should be exercised in dosing, temperament and severity being considered.

Treatment.—The first thing to do, if the *bowels* have not moved freely when the eruption appears, is to give an injection of boneset, one-half ounce, in one pint of boiling water; steep, strain and cool till luke warm, and add two teaspoonfuls of sugar. During the eruption pills should not be given, for the liver is seldom at fault. But daily evacuations of the bowels should be secured by using either milk or citrate of magnesia, castor oil, Rochelle salts, syrup of rhubarb or enemas, as above.

The temperature of the room should be maintained at about 72°, and it should be well ventilated. Always isolate the patient, even if no other children be in the house, for, as stated before, the infection may permeate clothing, furniture, etc., and be dangerous to visitors for months to come.

Bathing, if the skin is hot, should be pursued once or twice a day, making sure the water is warm to the touch, though not hot. Don't expose the whole body at once, and dry gently without rubbing. It is good to annoint the body with fresh cocoanut oil or goose

grease, but never use lard or salves. Where there is much itching and an intense burning sensation, witch hazel extract will be found very soothing and most beneficial in place of oil. A single garment, preferably a gown of cotton, should be worn, and the bed coverings should be warm but not heavy.

Diet should be very simple. Thin gruels are usually relished. Sea-moss farina, or the sea-moss prepared as a thin, warm blanc-mange is wonderfully nourishing and soothing. The liquor from raw oysters or oyster soup is good; and, if agreeable, onion broth with milk is excellent. These are merely suggestive of the character of foods to be given. Dry toast, oat meal, meats and all concentrated foods or soggy dishes should be avoided. As a *drink* lemonade is excellent, and it may be given cold, though not much at a time. Even a lump of ice may be held in the mouth for a short time during the high fever. Malted milk is relished and nourishing, either hot or cold. Never overload the stomach—it is far better to feed lightly every three hours, if there is a demand for nourishment.

Medication.—During the fever and eruption use an infusion of the following:

Take Pulv. Pleurisy Root *one ounce.*
 “ *Ladyslipper* *one-half ounce.*
 “ *Queen of the Meadow* *one-quarter ounce.*
 “ *Ginger* *one-quarter ounce.*

Mix and steep in one pint of water; strain and sweeten and give one or two tablespoonfuls every two hours during waking hours.

For the throat use a spray of golden-seal (two tablespoonfuls to the pint of boiling water), with borax (a teaspoonful) added. This may be given every two hours, or it may be taken as a gargle. About the neck should be worn a thin band of flannel, moistened with stimulating liniment, if the soreness or stiffness is great. After the eruption, and during the period of desquamation, the following infusion can be used every two or four hours in tablespoonful doses:

Take Pulv. Goldenseal.....one-quarter ounce.
Queen of the Meadow.....one-quarter ounce.
Blue Cohosh.....one-quarter ounce.
Ginger.....one-quarter ounce.

Mix. Steep in one pint of boiling water.

It is a good plan during desquamation to anoint the body with refined vaseline every day, being sure to wash it off before making another application—using castile soap. This use of vaseline aids in preventing the fluffy scales from being scattered about.

Anginose Scarlet Fever is a most serious form of the disease; the throat symptoms predominating, and all the symptoms of simple scarlet fever being intensified. The mouth and tonsils appear dark red, and swallowing is very difficult. The mucus in the mouth and throat is viscid, and there is a tendency to ulceration; small ulcerous spots often being visible on the fourth day. These spots spread and the pus which fills them becomes acrid, and mingling with the thick phlegm renders it putrescent, and it turns dark brown, covering the tongue and teeth, and filling the nostrils, as it dries, with filthy scales. The pus in the nostrils often backs up into the eustachian tube (the canal from the throat to the middle ear) and thus getting into the middle ear, causes deafness, and if it burst the ear drum, results in permanent deafness. Sometimes the purulent pus reaches the stomach and causes ulceration, and abscesses under the jaw, or elsewhere, are common.

It is manifest that such a condition of affairs is exceedingly dangerous, and that most strenuous measures should be resorted to from the start. There is no better addition to the treatment given for simple cases than myrrh. To the infusion used for the eruptive stage add one teaspoonful of compound tincture of myrrh. About the throat place flannel saturated with strong stimulating liniment. As a spray use borax, one-half teaspoonful to a cup of strong goldenseal infusion, with one-half a teaspoonful of compound tincture of myrrh added. Also spray up the nostrils hydrogen peroxide diluted one-half with water. This

should be done every three or four hours, and after it is used an ointment made of vaseline with a little powdered borax may be put in the nostrils by the finger.

If there is great pain and swelling under the ears, poultices may be applied, made with ground flaxseed moistened with water containing compound tincture of myrrh and sprinkled over with pulverized goldenseal and kept soft by glycerine. The patient should be given a tablespoonful of strong infusion of composition (see formulas) every three hours, and a teaspoonful of powdered composition should be added to the infusion mentioned to be used during the period of desquamation in simple cases.

Sometimes about the fourth or fifth day the putrescent phlegm and crusts crowd the throat and fill the stomach. This will cause death unless attended to at once. The quickest and most effectual way to overcome this dangerous condition is to administer a stimulating emetic (see chapter on Emetics), and repeat it every twelve hours, till there is a marked change for the better. Two or three such emetics will work wonders towards recovery.

The *diet* in the anginose variety must be very nourishing. Broths are advisable and they may be highly seasoned. The bowels require strict attention. Senna and ginger in infusion may be given.

Malignant Scarlet Fever seldom occurs. In this form the nervous system seems overwhelmed from the start; restlessness and delirium of a low grade may occur early and run into stupor and muttering delirium. The eruption is slow, of short duration and scattered, soon turning to purple spots. The finger nails are blue, the temperature varies and may fall below normal suddenly; the pulse is small and ranges about 140 or 150. There may be bloody diarrhoea or bloody vomiting. Throat trouble is usually slight. Such a condition is rapidly fatal, and death may occur in from two to four days.

Treatment must be rapid, and vigorously carried out. Give injections to the bowels of powdered blue cohosh, composition and scullcap, each one teaspoonful, steeped

in a pint of boiling water and strained, and one tea-spoonful of tincture of myrrh added. Give one such injection at tepid heat every hour until improvement is manifested. Apply to the spine, especially the upper portion, a liniment made as follows:

Take Tincture of Black Cohoshtwo ounces.

Tincture of Lobeliatwo ounces.

Essence of Gingerone ounce.

Essence of Origanumone ounce.

Mix, and apply every three hours.

If the kidneys do not act freely, make an infusion of one ounce of burdock seed in a pint of boiling water and add a tablespoonful of the above liniment. Saturate cloths with this and apply hot in the region of the kidneys. Hot sponge baths, of a temperature of 95°, should be given every ten hours, and perfect quiet enjoined.

If convalescence is established, a tonic of the fluid extracts of goldenseal, peruvian bark and scullcap, each two drachms, in four ounces of syrup of ginger, may be given every three hours; and extraordinary precautions taken against relapse.

Complications.—There may be serious difficulties following an attack of scarlet fever, which need prompt attention to avoid serious results.

Dropsy.—This may occur early or as late as six weeks after the eruption. Use freely an infusion of pleurisy root and composition, each one-half ounce, and scullcap, one-quarter ounce, in a pint infusion. Every three hours a strong tea of peach leaves, goldenseal and queen of the meadow will increase the action of the kidneys and sustain the system. Over the entire body may be rubbed every six hours the liniment named under anginose scarlet fever.

Deafness.—During painful inflammation of the middle ear, relief may be obtained by saturating a piece of cotton with tincture of lobelia and inserting it in the ear. If glandular swellings are present use a syrup made by adding sugar to a strong infusion of

yellowdock roots and burdock seeds. This may be given every three hours.

Rheumatism, bronchial difficulties and other difficulties must be treated according to their nature; treatment being given elsewhere in their respective places.

Always bear in mind that scarlet fever in any form, no matter how light, cannot be trifled with. Dangerous symptoms are liable to manifest themselves at any moment. And fatal sequences may arise as late as six weeks after the disappearance of the eruption in the simplest cases.

FEVERS (ERUPTIVE).—SMALL-POX.

Variola.

There is no other disease, except cholera, that is so much dreaded by Americans as small-pox. Its filth, suffering and virulence render it an especially frightful malady, and one which requires every precaution to be taken against its contraction.

It is an undeniable fact that small-pox is not near so prevalent or fatal as it was a hundred and more years ago, but it does not follow that this fact is due to the discovery and practice of vaccination. Small-pox is regarded by all as essentially a filth disease, propagated and intensified by unsanitary conditions, and it is always most fatal among the lower classes and in neighborhoods where the least regard is paid to hygienic considerations.

It is only during the last century that especial attention has been given to the question of sanitary science and that individuals and municipalities have endeavored to evade disease by adopting proper methods of living and sanitary regulations. Such efforts have resulted in keeping our country free from cholera epidemics for many years, although formerly it was supposed that cholera was an inevitable scourge to be visited upon us periodically about every seventeen years. There has been no vaccination to secure immunity from cholera, and physicians as well as the general public rejoice in the fact that by proper precautions and sanitary regulations the scourge has been so long

evaded, and all realize that negligence in these matters in time of danger may again allow its development. Probably it is a matter of great regret to many physicians and others that some one did not long ago introduce some method of vaccination against cholera, to which could have been ascribed the "stamping out" of the disease, and which might even now and in the future be a source of revenue to the medical profession.

It is the author's candid opinion, based upon large experience and observation, that vaccination does not give the least protection against small-pox, but on the contrary it increases the liability. See the articles on Cow-pox and Vaccination.

Cleanliness, proper habits of life, and, in short, the observance of hygienic rules, will prove the most effective means of escaping small-pox during an epidemic. Those who are compelled to expose themselves to the disease will do well to take pains never to enter the small-pox room when fatigued or when the stomach is empty. The most contagious stage of small-pox is when the pustules are bursting. Before the eruption appears there is no danger. The scabs and the scales are capable of conveying small-pox even a year or two after they were shed. Persons who have once had small-pox are not likely to have it a second time, although many such cases are recorded.

Symptoms.—From the time the poison enters the system and commences to affect the organism until the termination of the malady, the symptoms manifested may be divided into five periods:

1. *Incubation.*—Literally, this is the "hatching" period, and lasts from the time of exposure until active signs of small-pox become apparent. Its duration is variable. In rare instances it has been as short as eight days, and occasionally it has extended over a period of sixteen or more days, when there were peculiar circumstances which influenced delay. Nearly all cases of small-pox develop in ten or twelve days after exposure, and if the disease does not develop inside of three weeks after direct exposure, the danger

from that exposure will be past. During the period of incubation there may be no marked disturbance, but usually there is a feeling of lassitude and loss of appetite, but nothing that would indicate the nature of the difficulty.

2. *Invasion*.—Without warning there will be chilliness or a pronounced and severe chill, followed by fever of a high grade and severe headache and intense pain in the small of the back, and usually aching of the joints and a feeling of great prostration and realization that severe illness is at hand. There will be vomiting, or at least nausea and great thirst. The tongue will be found covered with white fur and red at the tip and edges. The pulse will be very full and very frequent, and every indication of Nature's effort to eliminate poisonous material and to overcome obstructions of a serious nature may be recognized. The temperature during the first day may reach 104° or 105° , and by the second day 106° or even 107° may be reached. Children and sometimes adults become delirious or may have convulsions. The bowels are constipated, except in unusual cases, when diarrhoea may occur. Sometimes a slight scarlet rash may come over the surface of the body for a few hours or days. This period of invasion usually lasts three days, though in mild cases it may last four days. When typhoid conditions are present there may be no eruption for a week or more.

3. *Eruption*.—After three days, or occasionally four days, of almost unabated high fever, the eruption of small-pox makes its appearance. At once the fever abates and the temperature may fall to normal within a few hours; headache and pain will cease and a sense of complete relief will be experienced. A moist skin and a quiet, peaceful sleep and even a desire for food will add to the general indications of relief.

The eruption first appears upon the face in the form of little red points which feel hard beneath the surface. As a rule they are first noticed on the forehead, about the roots of the hair; then about the mouth and over the neck; and within twenty-four hours they have pretty well covered the entire body. By the end

of the third day after its appearance the eruption consists of masses of elevated pimples, surrounded by inflamed tissue. Ordinarily these pimples are dull red and separated; but in severe cases they may be dark or purplish or they may run together into masses. Frequently the eruption appears in the mouth and nose and throat, affecting the mucous membrane, and often interfering with swallowing and causing troublesome cough.

4. *Suppuration*.—Usually upon the fourth day of the eruption, the pimples fill with a whitish fluid which gradually turns yellow as they contain pus, and their upper surfaces become depressed. When suppuration commences, fever again sets in and suffering recommences. The face becomes swollen and the eyes very sensitive to light. In severe cases the eyes will be almost closed and the hands and feet greatly swollen. Tough phlegm will get into the throat and air passages and almost cause suffocation. By the seventh day of the eruption, the pustules begin to burst and cause a peculiarly offensive odor. There will be great weakness and frequently lung troubles during this period, and death may follow neglect.

5. *Dessication*.—About the eleventh day of the eruption, scabs begin to form on the pustules, and in three or four days these drop off and are followed by thin scales which in turn also drop off, only to be followed by thinner ones, and these in turn by others for possibly three or four weeks. Finally there is left a depressed scar, at first purple in color, but gradually fading until simple scars or pox-marks are left. These are usually confined chiefly to the face.

Confluent small-pox is recognized early by the running together of the pimples, and the formation of large pustules amounting, perhaps, to abscesses, and becoming very offensive. All through the course of the malady, the symptoms of the confluent variety are much more severe than the simple or *discrete* form. Confluent small-pox is dangerous and is apt to be followed by glandular or scrofulous difficulties.

Malignant or Hemorrhagic.—This is a very fatal form of the disease, although by prompt and vigorous treatment recovery may follow. The stage of incubation of hemorrhagic small-pox is usually shorter than that of the simple form; but all the symptoms of the other periods are much more severe. About the fourth day dark spots appear over the abdomen and limbs and soon cover the body, giving a black-and-blue appearance. There may be bleeding from the nose and mouth, and bloody urine and blood in the feces. The pulse becomes very frequent and weak and the temperature falls. The pustules may become filled with blood and hemorrhages take place from them. In these cases death usually occurs in less than ten days from the first day of the eruption. Malignant small-pox is also known as *Black Small-pox*.

Varioloid.—This is essentially a mild form of small-pox, which may affect persons exposed to the disease who have their systems in a comparatively good condition or who have formerly suffered from small-pox. The symptoms are not as severe as those of the ordinary variety; there is no fever during suppuration, and the whole difficulty is over within two weeks. It is very rarely fatal, but it usually gives immunity from small-pox, although persons may contract genuine small-pox from exposure to varioloid cases.

Small-pox Fever.—During an epidemic of small-pox many persons may have all the symptoms peculiar to the stage of invasion, only milder in character, and escape the ordinary sequences of pustular eruption. Such cases usually indicate a good previous condition of the system, and others very rarely contract the disease from them. Whatever eruption occurs is more like that of measles or scarlet fever, and the difficulty seldom lasts beyond a few days.

Treatment.—After exposure to small-pox a person should do everything possible to keep the system in good order. Bathing should be performed daily in water of an agreeable temperature; diet should be wholesome but not too heavy—fruits and vegetables

are best; the bowels must be kept open, and excesses of all kinds should be avoided.

When it is reasonably certain that small-pox has developed, allow it to take its course and make all preparations accordingly. (See article on Contagious Disease, page 124.) The great majority of cases of simple small-pox would recover were Nature allowed to use her own best efforts under favorable circumstances.

The favorable circumstances for small-pox patients are, cleanliness, good nursing, a darkened room, full and free ventilation, and an even temperature of about 62°,—never over 68° if it can be avoided. Clothing and bedding should be frequently changed. The diet should be very light, such as broths, milk, gruel, sea-moss farina, malted milk and similar articles given frequently in small amounts.

During the fever stage allow plenty of cold lemonade or cold water, and frequently sponge the face and hands or the whole body with warm water containing a little bi-carbonate of soda. If there is constipation give milk of magnesia or some other preparation to gently move the bowels. If the surface is very hot and dry, promote perspiration by giving freely an infusion of pleurisy root, one ounce, and ginger, one-eighth ounce, to a pint of boiling water.

If the throat is sore, use a spray or gargle of borax in goldenseal infusion. If there is delirium and great restlessness, administer injections to the bowels of catnip and lady-slipper infusion every four hours. If there is great prostration use as a tonic sulphate of hydrastia and salicin, each one grain, in a capsule, every three hours. If there is a malignant tendency use composition infusion very freely. During the stage of suppuration, in all cases, a tonic is usually needed, such as the frequent use of infusion of blue cohosh and ginger.

The eruption then may be intolerable itching which may be allayed by covering the whole face with a mixture of potters' clay and sweet oil; or witch hazel extract may be used.

To avoid pitting, the pustules may be pricked with a fine needle as soon as they become ripe—about the

fourth day—and squeezing out the contents. Protect the eyes from light and allow perfect quietude. During convalescence use the compound gentian syrup (see formulas).

If the directions for contagious diseases are followed there will be little danger of the disease spreading.

Varioloid seldom needs more than the close observance of the hygienic regulations mentioned, and possibly the use of the pleurisy root and ginger infusion. The same may be said of small-pox fever.

Articular rheumatism, nervous troubles, blindness or deafness may follow ill-managed cases of small-pox.

Fevers (Eruptive).—Varicella.—See Chicken-pox.

FEVER (ERUPTIVE) DIAGNOSIS.

How to Correctly Distinguish Eruptive Fevers.

It often becomes most important to recognize at an early date the precise nature of eruptive fevers. Much anxiety and serious consequences to others may be averted by a knowledge of the disease present. The following table of early prominent symptoms, placed together for comparison, will be found convenient for ready reference.

Measles.—Watery and blood-shot eyes, sneezing and catarrhal symptoms with cough. Temperature seldom over 102°, falling in the mornings. Symptoms commence in eight or fourteen days after exposure; usually on the twelfth day.

Eruption usually on the fourth day of fever, first on the forehead and face and then downward, like crescent-shaped flea bites, running together. Rash continues four or five days; disappears first from the forehead and face; countenance swollen during the rash. *Fever always increases during the eruption.*

Small-pox.—Symptoms usually commence ten or twelve days after exposure. Sudden chill followed by

high fever, temperature 105° to 107° within twenty-four hours, with almost no abatement. Great pain in the small of the back and joints; nausea or vomiting and severe headache.

Eruption usually appears on the third day, as minute red points at the roots of the hair, feeling hard beneath the surface. In three days more the pimples fill with fluid and are depressed on the top, and about the seventh day of the eruption the pustules burst. *Fever and pain suddenly cease when the rash appears.*

Scarlet Fever.—Symptoms commence in from three to seven days after exposure, without any premonitory signs. There will be vomiting, rapid pulse and high fever. Temperature rises quickly to 105° or 106° . Throat sore and swallowing usually difficult.

Eruption appears in from twelve to twenty-four hours, first on the neck and chest, in the form of small red spots, running together and not raised. It fades in five or six days. The fever continues during the rash. *The tongue has a strawberry appearance at the tip.*

Chicken-pox.—Symptoms of very light fever commence in four or five days after exposure.

Eruption appears with the fever as small round pimples scattered over the body; they are not flattened like small-pox pimples, and soon fill with clear fluid. Very frequently there will be no fever.

German Measles.—This is a rash resembling both measles and scarlet fever. There is no fever, but possibly nausea and dizziness. Rash lasts about three days and may be followed by catarrhal symptoms. Sometimes there is slight fever during the rash.

FEVER—GLAND.

Acute Cervical Adenitis.

This disease is characterized by acute inflammatory swellings of the glands of the neck, accompanied by fever. Males are more frequently attacked than females, and the difficulty seems to be infectious, as

when one child in a family suffers the others usually suffer also. It is chiefly a disease of early childhood.

Symptoms.—For about a week before the marked and characteristic symptoms of the disease there will be a general indisposition, with loss of appetite and constipation. Then suddenly there will be chilliness with possible vomiting, followed by very high fever, the temperature usually reaching 103° . The pulse will become frequent and the face flushed. The glands of the neck will become enlarged, and may be distinctly seen and felt just beneath the ears, usually on both sides, resembling mumps in appearance. The neck is painful, though there are no throat symptoms beyond some internal redness. A feeling of great weakness sets in. The fever will persist intermittently for one or two weeks and the glandular swellings will continue from two to six or more weeks; fever being high during the afternoons, while in the mornings the child will feel greatly relieved. The tongue will be coated and there will be marked constipation. When the fever subsides the appetite will increase and strength gradually return. Sufferers from gland fever lose flesh rapidly and look very pale except during the hours of fever. Recovery will follow unless serious complications should arise.

Treatment.—At the start open the bowels with antibilious physic (see formulas), or some other active cathartic. Give an infusion of pleurisy root and ginger during the hours of fever; and at other times administer scullcap and gentian. Sustain the system by malted milk or other light and nourishing diet and keep the bowels open by using a mild laxative or aperient (see Cathartics). Equal parts of tinctures of calendula and ginger may be applied to the swollen glands.

FEVER FROM INDIGESTION.

Stomach Fever.

Children, and grown folks as well, are very liable to over-eat, or to eat some forms of food which do not

agree with them; and as a natural consequence there follows a disturbance in the stomach. Sometimes the excess of food irritates the stomach so quickly that vomiting is very soon evoked, and the disturbing contents ejected. But most frequently the food remains in the stomach and creates mischief, which in itself may be slight, but may nevertheless lead to anxiety unless its true nature is recognized.

Symptoms.—Preceding stomach fever there is very seldom any perceptible chill, a sudden and general paleness being the only sign of depression. This paleness may come on at any time, though frequently just before commencing to eat, when the nervous depression takes away the appetite and may cause food to be revolting. The paleness does not last long, and is quickly followed by a flush; the cheeks of children may become very bright. The tongue has a thin white coating and is usually moist, often having pin-head dots of red. The surface is not dry, although it may feel very hot at times, but the hotness is not constant, it varies frequently in a short time, and there may be several periods of paleness and flushing during the course of a day, and at night, especially with nervous children, there may be delirium.

These symptoms may appear alarming in some respects, but the skin will be found soft and pliant and perspiration easily induced, while the pulse, although increased in frequency from ten to twenty beats, is full and soft and regular, and denotes no serious difficulty.

Treatment.—If there is a tendency to vomiting, a drink of lukewarm salt water will aid in hastening it, and relief will be quickly obtained. Where it is manifest the stomach is overloaded and sour, a simple emetic (see chapter on emetics) should be given, otherwise a neutralizing cordial (see formulas) should be administered every two hours during wakefulness. It should also be given after the emetic, if that is given. An attack of stomach fever may last from one to four or five days and is always inconstant. Plain and light food should be given, and the child allowed to

sleep, which it is prone to do. A little syrup of wild cherry is good if there is much weakness following the attack.

Filaria.—See article on Guinea Worm.

Fish-Skin Disease.—See article on Ichthyosis.

Fissures.—See Anus Diseases.

Fistula.—See Anus, Diseases of.

FISTULA.

Recto--Urethral.

This is caused by abscess between the rectum and urethra, thus forming an opening between them. The symptoms are passages of feces with the urine and occasionally urine passing from the bowels. The bladder should be evacuated by lying upon the belly, and then frequent injections to the bowels of some mild astringent, such as raspberry leaves and witch hazel and myrrh. Persistence will usually cause healing of the fistula, along with healing of the abscess, which as a rule has an external opening. When not thus healed a surgical operation must be resorted to.

Urinary.

Occasionally canals or fistulas are found running from the urethra to various parts of the surface. Their openings may be in the perineum, on the thighs or buttocks, or even above the scapula bone. During urination the urine flows through these openings. Stricture of the urethra is the usual cause of urinary fistula. The urine being unable to flow through the natural channel, nature makes another, sometimes several. These fistulas may be short and straight canals, or they may be very tortuous.

Treatment.—It is of greatest importance to sustain the strength by nourishing diet and rigid hygienic

measures. If stricture is present, its removal by introduction of the urethral sound will give a natural canal for the urine and the fistulas will heal of themselves. Sometimes the fistulas become degenerate, when they will require expert surgical treatment and the continued use of the catheter to avoid urine flowing through them. Weak solutions of caustic potash injected daily may produce sufficient action to heal degenerate fistulas.

Flatulency.—See article on Colic.

Flux.—See article on Dysentery.

Follicular Pharyngitis. See article on Throat Diseases.

Follicular Tonsillitis.—See article on Tonsillitis.

GALACTORRHOEA.

Excessive Flow of Milk.

Occasionally the breasts of women continue to flow after they have ceased to suckle or between intervals of nursing, causing great annoyance and probable weakness. Such a condition may be caused by irritation of the breasts or nipples by pressure or otherwise, when removing the source of irritation will stop the difficulty.

When the extraordinary flow is caused by an unusually large quantity of milk during nursing, the breast pump may be applied to advantage. When the fault lies in very soft and relaxed nipples they may be anointed with an ointment of one drachm of tannic rubbed into an ounce of vaseline.

When the flow continues long after a child is weaned astringent drinks should be used, such as strong infusion of raspberry leaves. Occasionally the

difficulty is caused by general weakness, when the flow becomes exhaustive. Such cases should be treated by using the compound syrup of mitchella (see formulas). This difficulty is often very obstinate.

GALL-STONES.

Biliary Calculi.

These are accumulations of hardened bile within the gall-bladder or in the bile ducts. Persons in middle life and old age are most liable, especially those who are of a bilious temperament, who have lived in malarial sections, or who have been troubled by constipation or liver troubles, or who have eaten largely of animal foods. Their origin may be due to simply drying out (inspissation) of the bile, altered characteristics of the fluid or accumulation about a nucleus of mucus or other material. The size of the stones vary from that of a grain of wheat to that of a hickory nut. If large, there are rarely more than two or three present, and if very small, there may be two hundred. They usually develop very slowly and give but little trouble until they commence to be evacuated, when they irritate the passages or become lodged in the gall-duct.

Symptoms.—The paroxysms of pain which occur when the gall-stones are striving to leave the bladder are excruciating in character and very exhausting. They may come on regularly every few days or weeks or months. Sometimes they result in evacuations, and at other times the calculi are unable to pass through the duct. An attack commences with dull pain under the right ribs, usually after eating or exertion. The pain soon grows sharp and intense, of a griping and boring character, extending to the abdomen and shoulder. There may be vomiting of food and mucus, and occasionally chills and convulsions, but no fever. The face is pale, and when the calculi become fastened in the passages there will be jaundice; often the whole surface of the body is cold and covered with perspiration.

Such symptoms may last for hours or for days before the stones are evacuated, and then when they enter the small intestine (duodenum) the pain suddenly ceases and the jaundice disappears and intense relief is experienced, although there is great prostration and weakness. Occasionally a gall-stone may be of such large size or of such roughened character as to become firmly lodged in the duct and thus cause suppuration and death, unless surgical interference is prompt.

Gall-stones are usually green or brown, but may be varied in color. They may be soapy and greasy to the touch, or hard or friable; they may be round or flat or oval, and smooth or roughened or warty. A very small angular calculus may cause great pain, and one large one may be followed by numerous small ones. The discharges from the bowels after a paroxysm should be carefully searched for the gall-stones.

Treatment.—During an attack relaxation must be the aim, so that the stones may be readily passed. Over the region of the liver place a large fomentation of lobelia seed and flax-seed and keep it warm. Every hour give an injection of half an ounce each of lobelia herb and lady-slipper in a quart of starch water and have it retained as long as possible. By the mouth administer small doses of an infusion of pleurisy root and spearmint every half hour. The stones will be discharged and relief follow. After an attack the bowels must be kept freely open by liver pills, and general treatment for congestion of the liver pursued. The stones are liable to be formed frequently unless such methods are adopted.

GANGLION.

Weeping Sinew.

These are movable tumors frequently noticed on the back of the wrist or upper part of the foot, varying in size from a pea to a hen's egg. They are fibrous sacs containing a watery or jelly-like fluid. Being situated directly over a tendon they are often de-

scribed as tumors of the tendon's sheath. They are at times unsightly and may cause pain and even weakness. The simplest way to get rid of these tumors is breaking them by a sharp blow, the patient's wrist being flexed over the operator's knee. Sometimes they are punctured or squeezed sharply against the bone. They are liable to recur and may necessitate wearing a rubber bandage. After one has been broken, witch hazel extract may be applied and a pad and bandage worn for a few days.

GANGRENE.

Mortification.

This is decay or death of soft tissues of the body, brought about as the result of injury or disease. Crushing or pressure, burns, corrosions by acids and frost bites are often followed by gangrene. The diseased conditions liable to precede it are carbuncles, anæmia, interruptions to arterial flow, poisoning, and all circumstances leading to a diminished flow of blood to a part. Two forms of gangrene are recognized—moist and dry.

Moist gangrene is always preceded by inflammation. Then the parts become bluish or black and soggy, and are insensible to stimulating applications. There may be constitutional symptoms such as pain, sleeplessness, prostration and feeble and frequent pulse. The decayed portion becomes separated from the rest as a "slough," beneath which is ulceration, which gradually heals, or gangrene may be extensive and prove rapidly fatal, usually by blood poisoning and occasionally by destruction of a prominent blood vessel.

Dry gangrene commences as a spot at some point where circulation is feeble, usually a toe, and spreads slowly, the skin wrinkling and turning gray, brown or black without sensibility.

Treatment.—Nourishment, invigoration and stimulation are imperative. Highly seasoned broths, egg-nog (without alcohol) and pure milk are excellent. Fresh

air must be supplied and quiet enjoined. Locally, over the seat of the difficulty, apply poultices of flaxseed, pulverized myrrh and goldenseal, and renew every six hours. Before each application cleanse the parts thoroughly with a fifty per cent solution of hydrogen peroxide containing a little tincture of myrrh; or listerine, one ounce to eight of water, may be used.

Where there is absolute loss of sensibility, compound tincture of myrrh may be used freely externally, or red pepper may be abundantly added to the poultice. Internally administer large drinks of composition infusion, containing scullcap and a small amount of compound tincture of myrrh. The bowels must be kept open; and if the stomach is deranged stimulating emetics must be given. Old persons are occasionally affected with senile gangrene, which is either moist or dry. Enfeebled constitutions offer little hope in old age or disease. Persons of ordinary good health may expect *complete* recovery.

Gastralgia.—*Gastrodynia.*—This is a most agonizing stomach trouble which is fully described in the article on Neuralgia of the Stomach.

Gastric Catarrh.—See articles on Dyspepsia and on Diseases of the Stomach.

Gastric Fever.—A name sometimes given to typhoid or enteric fever. Fully described in the article on Fever—Typhoid.

Gastric Ulcer.—See Stomach Ulceration.

GASTRITIS.

Inflammation of the Stomach.

This condition is usually caused by swallowing irritating substances or by injuries. The symptoms are violent pain in the stomach, tenderness on pressure and frequent vomiting, inability to retain medicine or nourishment. Feverishness may be present at first,

but there is soon prostration and coldness of the extremities. As a rule death follows severe cases in a few days, preceded by hiccough, clammy sweat and sudden relief from pain. Sometimes severe cases caused by corrosives prove fatal in a few hours; other cases of gastritis from excessive use of spices, mustard, etc., present milder symptoms and recover in from one to four weeks.

Treatment.—Perfect rest is essential. Unload the bowels by injections. Give nothing to the stomach unless antidotes, as directed under poisoning. Put stimulating liniment or capsicum over the stomach. If there is great nervousness give an injection of lady slipper infusion. On the second day nourishment may be given by frequent injection of barley water. Allow no water to the stomach for at least two days, but moisten the lips and tongue. When bad symptoms have abated, give very small doses of witch hazel extract in gum Arabic water. Food must be of the lightest liquid forms for some time.

Gastrotomy.—This term is applied to the operation of cutting into the stomach for the removal of foreign bodies, cancers, tumors, structures of the œsophagus, etc.

Giddiness.—*Dizziness.*—See Vertigo.

Giraffe.—A name frequently given to Break-Bone Fever or Dengue. See article on Break-Bone Fever.

Glaucoma.—See section on Diseases of the Eye and Ear.

GLANDERS.

Farcy.

This is usually an incurable disease, contracted from horses or mules or asses suffering from it. Contagion may occur by inhaling the virus or by absorption

through an abrasion of the skin. If by absorption, after an interval of from three days to three weeks after contraction, symptoms will commence as loss of appetite, sense of prostration and achings of the limbs. Where the virus entered, the surface will become red and swollen and angry and an ugly ulcer will form, having a degenerate appearance. When glanders is contracted by inhalation the first symptom is the eruption, which appears as minute red spots over the face and other portions of the body. These enlarge to the size of peas and, suppurating, form foul ulcers. The mucous membrane of the nose and throat may be similarly affected and the lymphatic glands involved.

Death usually occurs within ten or twenty days after the onset of an acute attack; but the disease may become chronic, and extend over several months with a large per cent of recoveries.

Treatment.—Powdered sulphur, in teaspoonful doses, in glycerine, is said to be a reliable agent, in addition to hygienic measures and nourishing diet. The most likely success will follow the administration of large doses of an infusion of composition, to which may be added tincture of myrrh in case of offensive diarrhœa, which may occur. The mouth and throat should be frequently sprayed with peroxide of hydrogen and myrrh, and the ulcers elsewhere should be thoroughly cleansed with the same. The greatest precautions must be taken that others may not become infected. All animals affected with glanders or farcy should be killed at once, without hesitation, as they endanger human life.

GLIOMA.

Brain Tumor.

This is the most frequent form of tumor in the brain substance. It may be caused by disease or injury. Symptoms are usually obscure, though the presence of a tumor may be suspected when there is constant headache, with paroxysms of great intensity, tender-

ness at some spot on the head and vomiting spells. Paralysis may follow. Little can be done beside administering soothing nervines during paroxysms and adopting hygienic measures and nourishing diet. Death usually follows within a couple of years. Surgical operations may be resorted to in some cases.

Gleet.—*Chronic Inflammation of the Urethra.*—See section on Diseases of the Generative Organs.

Glossitis.—*Inflammation of the Tongue.*—See article on Tongue Diseases.

Glottis Spasm.—See article on Croup—False.

Glycosuria.—*Sugar in the Urine.*—See article on Diabetes Mellitus.

GOITRE.

Bronchocele. Exophthalmic Goitre.

This is enlargement of the thyroid gland, the gland that obscures the "Adam's apple" in women. The direct cause of the enlargement is not always manifest, though some families seem to be especially liable. Bad habits of living, scrofulous diathesis, and certain localities seem to favor its occurrence. Ordinary cases may develop very slowly over a long term of years and cause but slight inconvenience, though usually their growth continues till breathing is interfered with, or the tumor becomes very unsightly.

Exophthalmic goitre is usually associated with nervous diseases, hysteria, epilepsy, etc. The symptoms besides enlargement of the gland are increased heart beat, prominence of the eyeballs (pop-eyes) and pulsations in the enlarged gland.

Treatment.—Most important is regulation of the general health—the menstrual function usually being deranged. Electricity, with the negative pole on the gland and the positive between the shoulder blades

for five minutes a day is the best local treatment. As a tonic two grains of iron and potassa tartrate and one grain of sulphate of hydrastia in capsule every six hours is most excellent. When death is possible through suffocation, surgical operation becomes necessary.

Gonorrhea.—This is specific inflammation of the urethral canal and is fully considered in the section on Diseases of the Generative Organs.

GOUT—ACUTE.

Podagra.

This difficulty is usually inherited, and may be caused by excesses in eating and drinking, or by violent grief, rage or physical exertion.

Symptoms are loss of appetite, constipation, heart-burn and colic. The intestines are distended with gas and accumulations. The urine is usually scanty and red and passed with great pain, and contains a rose-colored sediment. An attack usually comes on at night with feverishness which lasts several days, the joint of the great toe becomes very painful, red and swollen; in repeated attacks, both great toes and the ankles and knees may be involved. Each night suffering is greatest and relief comes by early morning and the patient is irritable during the day. Attacks continue five or six days.

Treatment.—Unload the bowels by injections of bone-set. Internally administer pleurisy root and ginger infusion to produce perspiration. Keep the affected limb perfectly quiet and saturate the joint with a liniment of equal parts of lobelia and black cohosh tinctures. Every drink of water should contain from one to five grains of citrate of lithia. Lithia water should be used abundantly between attacks, and the diet scrupulously regulated.

GOUT—CHRONIC.

Arthritis Uratica.

In its general nature the chronic form of gout resembles the acute; though its symptoms may differ somewhat. Attacks may last for weeks or months, or be almost continuous, with slight intermissions during the summer months. The signs of inflammation are not so intense as in the acute form, and several joints may be affected at once, and these remain enlarged after the attacks. Indigestion is persistent and very slight excesses of diet may arouse an attack. Chronic gout may be inherited and may continue fifty years or more.

Treatment cannot be expected to entirely overcome the conditions, though it may alleviate the difficulty. During an attack the same course must be pursued as for acute gout. Tea, coffee and alcoholic liquors must be strictly forbidden. An abundance of distilled water, containing a little carbonate or citrate of lithia, must be used, together with such an alterative as the compound syrup of yellow dock (see formulas).

Green Sickness.—*Chlorosis.*—This difficulty derives its common name from the peculiar color of the countenance of those who suffer from it. Young women or girls of feeble constitution, or those who have improper surroundings at the time of puberty are the most frequent sufferers. The disease is fully considered in the article on Chlorosis.

Greese.—See Equinia Mitis.

GRIPPE.

Influenza. Russian Epidemic.

This particular form of catarrhal fever has during the last few years become often epidemic during the severe winter months. It differs from ordinary catarrhal

fever by the great prostration present, the liability to complications and the prolonged convalescence. Grippe has been also called Russian Fever, it being epidemic in Russia and spreading through Europe from that country during cold and damp winters.

Symptoms.—The disease usually commences with an uneasy feeling, soon succeeded by a distinct chill, which may or may not be followed by fever. The nervous system is greatly prostrated, and there is headache in the forehead, pain in the back, indisposition to eat and sometimes vomiting. After a day or two of these symptoms (which may possibly be absent) the characteristic condition of grippe becomes manifest. There is great irritation of the mucous membrane of the head, causing severe catarrh of the nose, extending downward into the larynx and through the lungs, and even into the stomach and intestines.

The mucous membrane of the eyes becomes inflamed. Taste and smell are interfered with and there is ringing in the ears. Dizziness, a sense of fullness in the head, often puffiness of the face, especially about the eyes and nose, are common. Breathing may be hurried and possibly rattling in the bronchi may accompany it. Irritable cough is sometimes present and the effort of coughing proves weakening and causes a "splitting headache."

There is usually feverishness, increased toward evening; but the rise and fall of temperature is uneven. It rarely reaches 104°. Sleep is perturbed and may be accompanied with delirium. The tongue is coated with a sticky, yellow fur. There may be tenderness over the stomach and possibly diarrhœa, though constipation is the rule. Neuralgia through the face and joints is common, and in some cases the neuralgia and other head symptoms become intense, causing violent delirium and indications of temporary insanity, causing precautions against suicide to be necessary. Small children may sink into general prostration and stupor.

One of the dangers of grippe is its possible complication with pneumonia, which is liable to occur in very

young or old or feeble persons. It commences when the catarrhal symptoms are most prominent, with a chill and increased cough and difficult breathing, not always painful, although there may be considerable effort during expectoration. The tongue is yellow, dry and thick. Death is likely to follow this condition.

Grippe, when not complicated, usually yields to prompt measures within two weeks, and light cases within three or four days. Complications make recovery slow and convalescence may involve many months of prostration and liability to relapses, even among the heartiest.

The disease is liable to occur during the winter months for several seasons, and removal during the period of liability to an equable or dry climate is advisable. Epidemics are most likely in northern cities, and attacks rich and poor alike. It aggravates any tendency to lung troubles, and leaves the system especially prone to the contraction of tuberculosis.

Treatment.—Mild cases require soaking of the feet in hot water containing red pepper, and frequent drinks of an infusion of pleurisy root and ginger with scullcap herb. When neuralgia is severe asafœtida pills, three grains, one every four hours, will give relief.

If catarrhal symptoms are severe along with nervous prostration use freely of an infusion of composition and scullcap, each one-half ounce to the pint. If the stomach is foul, as shown by a coated tongue, stimulating emetics should be given. In protracted cases a concentrated tonic is necessary, such as one grain each of capsicum, sulphate of hydrastia and salicin in capsule every six hours.

Complications must be treated according to their nature as laid down elsewhere. Even the mildest cases require careful housing until all danger is past; and in severe cases exposures must not be allowed until full strength has returned. During convalescence, if cough continues, syrup of wild cherry will be found useful. Nourishing diet is a necessity and a change of climate is always beneficial.

GUINEA-WORM.

Filaria.

This is a painful sore and abscess, usually upon the foot, brought about by the entrance, unnoticed, of a minute specimen of the *filaria medinensis*. It remains without special manifestations for five or six months, during which time it attains from fifteen to twenty-five inches in length and the thickness of a shoe string. Redness and swelling then commence, and a blister forms which bursts and reveals an opening from which the worm emerges. At this time asafœtida pills, three grains each, should be given every four hours, for a week.

The worm will protrude an inch or two each day, and the protruded portion should be wrapped around a tooth-pick and held until the next day. When the whole worm has been removed, antiseptics like myrrh and borax must be freely used. This sore is common in hot sections, and renders the sufferer a cripple while it lasts. Speedy recovery soon follows, though neglect and irritation may cause serious consequences for a time.

GUM DISEASES.

Gum Boils. Ulcerations.

Sometimes, from the presence of decayed teeth, inflammation of the gums occur, and terminates in an abscess or gum-boil. It is extremely painful for a few days until the pus is discharged. Lancing is often resorted to. The quickest relief is obtained by allowing a dentist to remove the cause. Tinctures of lobelia and broom-weed, held in the mouth, will frequently give relief.

Infants sometimes suffer excruciatingly by hardness of the gums not permitting the teeth to be "cut." Pain, exhaustion and convulsions often follow. Whenever the gums are hard and swollen and the child is fretful, cross incisions should be made, the blood all wiped away and witch hazel extract applied.

During the course of the disease called scurvy, the

gums about the teeth become swollen, spongy and bleeding, and a similar condition is occasionally met with under ill-defined circumstances. A wash prepared by infusing in vinegar blood-root and bayberry bark will be found an efficient remedy. The constitutional conditions being also appropriately treated. See Scurvy.

THE HAIR.

Its Proper Care, Diseases and Treatment.

Human hair grows upon the body like plants upon the earth. Upon the head it should be luxuriant and beautiful—an adornment. Care must be taken of the hair to preserve its health and proper growth. But just what constitutes the correct care of the hair may need explanation.

Let it be remembered that all over the body the scarf or outer skin is constantly peeling off in the form of very fine scales, and the scalp is not unlike the rest of the surface. On account of the mass of hair with its oiliness, the scales shed from the scalp are not so easily carried off, and are liable to become matted, and these scales and particles of dust, clinging to the oily hair, are liable to make a mass not at all cleanly. To get rid of the accumulations, the hair must be frequently brushed, and vigorously so. Using a comb is permissible to loosen out tangles, but the brush should be depended upon to remove the accumulations of dust and scales, with the aid of an occasional wash. Brushing the hair and scalp gently stimulates the glands and causes oil to be thrown out to keep the hair smooth and glossy. A comb is apt to irritate the scalp and cause an unnatural and extraordinary amount of "scarf" to be shed.

Washing of the head and hair is an important matter. With men, whose hair is short, this may be done frequently. Daily head washings with plain water being beneficial. But with women, whose hair is long,

washing cannot be done so frequently. Long hair dries slowly and women, after washing their hair, are extremely liable to catch cold or suffer neuralgic attacks. Catarrh is also a frequent result of wet hair. School girls often lay the foundation for much future annoyance by wetting their hair to keep it in place, and then going out in the cold.

Castile soap and water, or borax and water containing a little distilled extract of witch hazel, make excellent washes for the head. Always, of course, thoroughly rinsing the hair with clear water after washing. A fountain syringe filled with water and suspended far above the head will be found a suitable source of supply for the rinsing water—the small stream thoroughly washing out the remaining dust and dandruff.

Some persons use a fine tooth comb to remove dandruff. This is wrong, as it irritates the scalp. Children frequently become infested with head lice (see pediculosis) and the fine-tooth comb is then necessary, but its use at other times is truly harmful. Brushing the hair daily will usually suffice to remove dandruff, unless the scalp is diseased or irritated.

The hair, like a plant, has a period of growth and existence. It springs from its follicle, and after realizing its full length, will die in from two to four years, and be replaced by another hair from the follicle, just as plants may spring up each year. If the follicles and their surroundings are healthy, the hair will be correspondingly healthy, and manifest its health by long growth and oiliness. Dry and short hair may always be considered as unhealthy hair.

To use too much soap or other alkali on the hair will render it unnaturally dry, and for that reason it should be cautiously employed, although it is better for the hair to be dry than to be filthy.

Cutting the hair is an important matter. It is always best that children should have short hair. It is more convenient for them, and at the same time it causes the scalp to be more readily cleansed, and therefore kept in a more healthy condition. A meadow of grass that has once obtained its full growth and has been cut down, will not again grow to its former

height. Similarly, when hair has been allowed to grow its full length and is then cut off, it very rarely again grows as at first. It is a good plan to prune the hair by cutting off the very tips once a month.

The following constitutes a very pleasant and effectual preparation to use as a shampoo when washing the hair and scalp:

Hair Shampoo.

<i>Tincture of Ciuchoua</i>	<i>one drachm.</i>
<i>Bay Rum</i>	<i>four drachms.</i>
<i>Glycerine</i>	<i>four drachms.</i>
<i>Carbonate of Ammonia</i>	<i>four drachms.</i>
<i>Florida Water</i>	<i>one ounce.</i>

Mix thoroughly, and put just enough of it in a small quantity of water to cause a slight smarting of the scalp, and use as a shampoo.

Pomades and cosmetics for the hair are usually prepared from cheap fats and oils, strongly scented, and as a rule are miserable and nasty preparations. Should the hair be too dry to be kept in place oil it with a very little fresh cocoanut oil perfumed with your favorite perfume. Buy only a small quantity of cocoanut oil at a time as it becomes rancid.

A very pleasant and most effective oil preparation for the hair is made as follows:

Hair Oil.

<i>Oil of Lobelia</i>	<i>one-half drachm.</i>
<i>Oil of Capsicum</i>	<i>twenty drops.</i>
<i>Oil of Cocoanut</i>	<i>four ounces.</i>

Heat these gently together, mixing thoroughly.

This oil should be applied not oftener than twice a week, and will keep the scalp healthy and the hair oily and beautiful, and cause the hair to grow rapidly. Cocoanut oil is rapidly absorbed, and for that reason is superior to all other oils for use upon the hair and scalp. Vaseline is also preferable to ordinary pomades and greases, but vaseline is not absorbed, and can be used simply to keep the hair in position and to avoid its looking dry and fluffy.

Some persons admire hair worn in special arrangements, requiring preparations to keep it in position. This is a matter of taste; and when it must be thus worn it is best to use some innocent preparation. The following is harmless and may be cheaply prepared; and it will answer the purpose of the most costly preparations of "Bandoline."

Take gum tragacanth, four ounces, and soak it over night in one pint of distilled or pure water; next morning strain it like jelly through muslin and add four ounces of alcohol and one ounce of rose water and any perfume desired.

Bleaching the hair by peroxide of hydrogen is frequently resorted to. It can be effectually accomplished by this means; but there are too many reports of dangers following this method to permit it to be recommended. The following is an excellent recipe to be used as an

Invigorator for the Hair.

Take Bi-sulphate of Quinine.....one drachm.

Alcohol.....four ounces.

Shake, and add Oil of Lavender.....ten drops.

Oil of Rosemary.....ten drops.

Cologne Water.....two ounces.

Bay Rum.....one ounce.

Mix all thoroughly and apply every morning; rubbing it in thoroughly.

Crimping the hair or curling it upon hot irons usually cracks and destroys it, and hastens its death and consequent falling out. If the hair must be artificially curled it is best to curl it over night by wrapping it about the ordinary "kid curlers," consisting of soft kid containing wire for stiffening. Tins and harsh pieces of paper will always cause damage to the hair.

Superfluous Hair.—Many persons are annoyed by hair growing upon unnatural places. Women are especially anxious to prevent the growth of hair upon the lip or chin, and very often their anxiety in this regard prompts them to do things that are calculated only to increase the growth. Pulling out hairs with a

pair of tweezers will excite the roots of adjacent hairs to further growth. Shaving off hair will render their later development coarser and more unsightly. Many hair removers are on the market, but most of them are absolutely harmful, often destroying the skin as well as the roots of the hair; others are perfectly useless. Much has been written in journals concerning the removal of hairs by electrolysis. This method consists in inserting electric needles at the bulb of each hair, and turning on a strong current of electricity. There will be a froth appear at the root of the hair, which will become loose and can be readily removed by a pair of tweezers. The operation is very tedious and expensive; and, unless dangerous anæsthetics are employed, it is extremely painful.

Probably the safest way to remove hair is to apply an ointment of one drachm of salicylic acid, rubbed into an ounce of vaseline. Apply as a plaster for four or five hours for several days. Use more vaseline in the preparation if the proportions given prove irritating. After each application hairs may be removed. Anoint the parts with soothing oil after each removal of the plaster.

Abnormal Growth.—*Hirsuties*.—Some persons have an abundant growth of hair, amounting almost to a deformity. In some instances the hair of the head has reached twelve feet, and the beard over ten feet. As it is an easy matter to cut the hair, no treatment for this peculiarity is necessary. When there is an overgrowth of hair upon the face or arms of women, it becomes very unsightly, and requires treatment as above.

Baldness.—*Alopecia*.—Ordinary baldness is chiefly confined to men; and although usually an accompaniment of old age, young persons may be thus afflicted. It is, undoubtedly, an hereditary tendency of the scalp to draw tightly over the skull and choke the hair roots by pressure against the skull. Thus the sides of the head, where there are muscles, are seldom affected. When this form of baldness appears through heredity nothing can be accomplished. Hair tonics may for a

time cause a slight growth of soft hair, but from the nature of the difficulty, full growth of hair cannot be expected. Persons whose ancestors have been bald may themselves delay baldness by using freely coconut oil, containing oil of lobelia, to relax the tissues of the scalp.

Baldness from Disease.—This form of alopecia is due to a lack of nourishment and is always a sign of debility of the general system. It is a frequent sequence of typhoid fever, scarlet fever, meningitis and other exhausting maladies. Women frequently lose their hair while nursing children, or when their systems are enfeebled by womb troubles or nervous disorders.

Treatment.—Restoration of vigor to the body is the first consideration. During convalescence from exhausting diseases the habits of life, medical treatment and hygienic regulations must be in accordance with the directions given in the article on the various diseases. As an application to the scalp, the hair invigorator, mentioned in the first part of this article, should be used freely. Although the constant falling of hair may be very annoying it is best not to wear caps or otherwise bandage the head. Cutting off the hair under these circumstances is a very good plan.

Bald Spots.—*Alopecia Areata.*—This peculiar disease is confined to the hairy parts of the body, especially the scalp, beard and eyebrows; and it is probably due to some peculiar condition of the nerves regulating the supply of nutriment to the hair follicles. The first sign of the trouble is the readiness with which the hair falls out, in bunches almost, leaving bald patches, perfectly white and glistening, surrounded by natural hair. These patches spread somewhat and there may be quite a number of them. This condition may continue for some time, perhaps months, occasionally for years, and then a new growth of hair will start like down all over the spots, preceded by minute elevations of the surface corresponding to the points where the hair follicles are located.

Treatment.—Nervines, taken internally, such as scullcap and salicin, seem to arrest the disease by toning the nervous system. To the parts may be applied tincture of cinchona and tincture of capsicum, equal parts, twice a week. Ordinary baldness is termed simple alopecia.

Hair-Worm.—*Filaria.*—This is the long and thin worm—sometimes fifteen inches long—occasionally found under the skin of the legs and feet and some other parts of the human body. It is fully described in the article on Guinea-Worm.

Hammer Palsy.—This affection is the result of too long continued use of a particular set of muscles, and is similar to writer's cramp, and its symptoms and treatment are considered in the article on that subject.

Hand Chaps.—Exposures to cold and wet, and the use of harsh soaps may cause the well-known "chapping" of hands, cheeks or lips. When this annoying difficulty exists, its treatment is very simple. Avoid the use of strong soaps—washing in borax water is best. Three or four times a day apply a mixture of glycerine and tincture of benzoin and witch hazel, equal parts. At night time it is well to rub the hands well with mutton tallow and wear gloves. Cocoanut oil containing a little oil of lobelia is also an excellent application.

Hare-Lip.—The upper jaw bone or the palate may be cleft, causing a most unsightly deformity. The separation may be single or double. It is most frequent among boys and is always congenital. Surgical operation is the only means of cure. This should be performed between the third and sixth months of age, and never while teething is being accomplished. Many prefer to wait until the age of seven or over, but it only makes the operation more agonizing to the child and the deformity and inconvenience greater.

HAY FEVER.

Autumnal Catarrh. Hay Asthma.

This difficulty occurs from early June to September during the period when hay is cut and when the great mass of flowers give off their pollen. It is doubtless an irritation caused by the pollen of various plants—some believing the rag-weed most responsible.

Symptoms.—The difficulty commences suddenly, recurring each year, with many the exact day of recurrence being known; some cases not developing till late in August. There are tickling sensations in the nose, frequent sneezing, irritation and redness and swelling of the mucous membranes of the nose, mouth, throat and bronchial tubes and of the eyes, causing distressing and wheezing breathing, husky voice, some cough, and smothering sensations resembling ordinary asthma. The eyes burn and are full of tears, and the skin about them greatly puffed. Altogether persons suffering from hay fever are objects of distress until frost puts an end to the free distribution of pollen.

Treatment.—Journeys to high sections or sea voyages usually put an end to the trouble. No positive treatment has been found reliable. Some being relieved by articles which aggravate others. Smoking camomile, cubebs or witch hazel leaves often give relief. Light diet and mild nervines are appropriate.

HEADACHE.

Its Varieties, Symptoms and Treatment.

Sick Headache.—*Megrim.*—Various circumstances or imprudencies may cause this distressing difficulty, such as worry, anxiety, mental or physical overwork, improper food, excess of any kind, liver troubles and disorders of menstruation. Persons of nervous temperament and those who are thin-blooded are most liable.

Symptoms.—As a rule sick headache commences early in the morning with disturbed vision and possi-

ble cold extremities. Headache commences upon one side, usually in the eye or temple of the left side, and increases for several hours to a point of distraction, and then gradually diminishes and disappears by night time. There may be great sickness of the stomach and vomiting. Prostration is marked, and a sense of exhaustion is experienced during the day following an attack.

Treatment.—Never attempt to wear out a sick headache, it can't be done. At the first symptoms lie down and abandon all thought of work for the day. Perfect quietude with fresh air must be secured. If the feet are cold put hot irons to them, or else put them into a hot foot bath. A good preparation to keep on hand for such attacks is fluid extract of wild yam, one-half ounce, in four ounces of compound spirits of lavender; dose, half a teaspoonful in a little water every half hour for a couple of hours at the start; if it does not relieve, keep it up in hourly doses.

If nausea is a feature of the attacks add half an ounce of hyposulphite of soda to the preparation. The diseased condition back of the headache must be sought out and remedied. Diet must be carefully regulated and the bowels kept freely open. Abundant time for sleep must be allowed, and the nervous system can be strengthened by the free use of scullcap and canomile.

Bilious Headache.—A sluggish and congested liver, together with indigestion, may be the cause of this peculiar form of distress. Persons of a bilious temperament, who are in the habit of over-eating, or who have insufficient exercise, are the most frequent sufferers.

Symptoms.—Pain of a dull and persistent character is experienced about the forehead and temples and behind the eyes. Throbbing of the temples may be violent, and noises and motion usually increase the agony. The head is hot and sore, the tongue coated and appetite lost—although previous to the attack over-eating is the rule. With many persons this form of headache

becomes *chronic* and spells continue unabated for weeks at a time.

Treatment.—In acute cases soak the feet in very hot water. If the stomach is still over-loaded take a quick emetic (see emetics), open the bowels freely, taking a dose of Rochelle salts, and follow at night by the liver pills. Allow but little food and absolutely forbid the use of coffee.

Chronic cases must be treated as advised in the article on Congestion of the Liver. All persons suffering from bilious headache should take plenty of out-door exercise, be temperate and avoid excesses of all kinds and strictly observe the rules of hygiene.

Plethoric Headache.—Full-blooded and hearty persons are often sufferers from this form of headache. Stooping down causes a sense of fullness in the head, and noises and motion increases the pain. Pressure on the neck and shaking of the head causes dizziness.

Persons suffering from plethoric headache should avoid stimulating foods and take regular, but not violent, exercise. At the time of the attack place the feet in hot water and use a quick cathartic. Injections of an infusion of pleurisy root, one ounce, lady-slipper and black cohosh, each one-half ounce, in two quarts of water, used every three hours and retained as long as possible will usually give prompt relief.

Sympathetic or Rheumatic Headache.—Many diseases, especially rheumatism and kidney troubles, are accompanied by headache of an aggravating character. When there is rheumatism of the joints the pain seems to shoot back and forth between the head and the affected parts. In all cases of sympathetic headache, while the original difficulty is being treated, relief can be obtained by cold applications to the head and hot applications to the feet, the use of aperients and general observance of hygienic regulations.

Hungry Headache.—Many persons cannot miss a meal or be delayed long from their meals without suffering a peculiar dizzy headache, with probable

throbbing sensations in the forehead. Such persons are usually those of vital temperament. The only treatment is to provide an acceptable but not too hearty meal.

Nervous Headache.—*Hemicrania.*—This form of headache is often suffered by nervous persons or those using the brain excessively. Violent aching on one side of the head, and the temple and eye-ball, and sensitiveness to noise and light are prominent symptoms. With some the pain commences at daylight and continues until nightfall.

Relief is best obtained by injections of lady-slipper, one ounce, and blue cohosh, one-half ounce, in a quart of water, repeated every three hours and retained as long as possible. Perfect quietude must be enforced, and sleep enjoined. Gurania, in five grain doses, every hour, will prove most serviceable. Persons who suffer from nervous headaches should endeavor to regulate their habits of life in such a manner as to avoid mental strain and worry and excesses of all kinds. Sexual over-indulgence is a not uncommon cause of this difficulty.

HEART ATROPHY.

Shrinkage of the Heart. *Atrophia Cordis.*

This is a shrinking of the heart muscles, and may be the result of old age or of wasting diseases or debility, or of pressure exerted upon the organ by fluids, tumors, etc. It is usually soon followed by death, and the symptoms are too obscure to be recognized beyond the possibility of the difficulty from the conditions present, which must be appropriately treated.

HEART-BURN.

Cardialgia. Waterbrash.

This common difficulty is a form of dyspepsia caused by improper eating, as a rule. Some persons, though, cannot eat certain foods, especially certain fruits,

without suffering from heart-burn. Exposure to cold or mental excitement, especially just after eating, may cause it.

Symptoms.—There is a burning sensation, sometimes amounting to pain, at that end of the stomach nearest the heart (called the cardia). The stomach becomes distended with gas and there may be belchings, and often burning sensations and constriction are felt in the throat. These symptoms usually come on soon after eating and may continue an hour or more.

Treatment.—Three or four teaspoonfuls of lime water in milk will give prompt relief. If it is of frequent occurrence use tincture of camomile, one ounce, hyposulphite of soda, one-half ounce, in syrup of ginger sufficient for eight ounces; dose, a teaspoonful after each meal.

Waterbrash is allied to heart-burn. After eating, a small quantity of acid fluid is belched into the mouth. A little witch hazel extract mixed with lime water in milk is a corrective. These difficulties are usually associated with dyspepsia, which should be appropriately treated.

HEART DILATATION.

Enlargement of the Heart Cavities.

One or both sides of the heart may be dilated from various causes. Temporarily this condition may occur during fever, infective diseases or by any circumstances which impair nutrition—such as chlorosis, indigestion and hemorrhages. As a rule dilatation is caused by increased pressure of blood upon the heart, due to interference of circulation in the arteries, as in chronic lung diseases and aneurisms, or due to valvular diseases of the heart allowing the blood to enter the cavities too forcibly; this is usually compensated by thickening (hypertrophy) of the heart's wall, except in aged and debilitated persons. Excessive exercise may cause dilatation in the extremely feeble. Continued over-eating is occasionally a cause.

Symptoms.—The most prominent sign of dilatation is fullness of the veins while the arteries are small. This causes frequent tendencies to fainting. Palpitation of a peculiarly weak character, especially upon slight exertion, and a feeble pulse are usual. Difficult or asthmatic breathing, paleness and chilliness, and slight cough are frequent. Dropsy usually follows protracted cases, and death may occur during a fainting spell.

Treatment.—Avoidance of undue exertion and emotions and excesses of all kinds is imperative. Tea, coffee and alcoholic liquors must be excluded from the diet, which should be highly nutritious, though not over-stimulating. Milk, with a little lime-water, is the most acceptable drink. The compound gentian syrup (see formulas) is excellent, taken night and morning, and half an hour after the mid-day meal should be taken a capsule containing one grain each of capsicum, sulphate of hydrastia and iron and potassa tartrate.

When dilatation is caused by temporary disease, it may be completely overcome; and even when it is due to organic disease, life may be prolonged to old age and rendered comfortable by proper habits, care and suitable medication.

HEART EXHAUSTION.

Heart Strain.

Occasionally the heart is strained, as any other muscle of the body may be, by excessive exercise. Too long and rapid walking, especially up hill, fast running, forced marches in army life, excessive gymnastic exercise, jumping the rope, and similar exercises may cause heart strain.

Symptoms.—These are paroxysms of palpitation and rapid pulsations upon the slightest exertions; merely going up stairs or walking across the room will cause a most perceptible increase of heart action, the pulse being regular but quite weak. Young persons, from

fourteen to eighteen years of age, are mostly affected with heart strain, and the weakened condition may continue for years and recovery be gradual—the heart not being able, like other muscles, to keep at perfect rest.

Treatment.—All that is necessary in the treatment of heart strain is quietude, nourishing diet, plenty of fresh air, abundance of sleep, freedom from study and anxiety, and regularity of habits. The use of tea and coffee and alcoholic liquors, and all bad habits should be prohibited.

HEART—FATTY DEGENERATION.

Fatty Heart.

Two classes of persons may suffer from fatty heart: those of plethoric constitution and intemperate habits disposed to obesity, and those who are anæmic from diseases which interfere with the power of the blood to carry oxygen, such as consumption, chlorosis, cancer, etc. The great majority of cases occur after the fiftieth years, and very few before the age of forty.

Symptoms.—There are no signs by which fatty heart may be absolutely recognized during life, but many symptoms which belong to other conditions also may by their presence under circumstances spoken of, lead to the suspicion of the disease. They are weakness of the heart after slight exertion, the veins full and the arterial pulsations often irregular and very feeble; palpitation, copious perspiration and asthmatic breathing, and attacks resembling apoplexy, which pass away in a few minutes. The pulse may at times get as slow as eight beats per minute. The breathing at times presents peculiarities, first there being a couple of dozen very shallow respirations and these gradually becoming deeper and then slower, and then for a minute or less, ceasing altogether, and then resuming of a shallow character. This form of breathing is termed Cheyne-Stokes' respiration.

Fatty degeneration of the heart may mean the gradual substitution of fat molecules for muscular molecules of the organ, or it may be the accumulation of fat about the heart, upon its surface, and at the valves and where the arteries are connected. A person with fatty degeneration of the heart may by care live to old age. Death may be sudden from great mental or physical excitement. Usually death comes with dropsy or disease of the liver, kidneys or lungs.

Treatment.—Intemperate persons or those inclined to obesity must regulate their habits and guard against all excesses. Massage should be relied upon for exercise of the muscles. Iron waters are excellent. When the heart's action is weak capsicum, goldenseal and scullcap will sustain it. The mind must be kept quiet. Anæmic persons must have very nourishing diet. Sponge baths are excellent. The bowels must be kept open so as to avoid straining. The following will be found advantageous for plethoric persons: Take fluid extracts bladder-wrack, scullcap and gentian, each one-half ounce; glycerine, one ounce; mucilage, gum Arabic, six ounces. Dose, a teaspoonful after meals. Starchy foods and sugar must be avoided.

HEART HYPERTROPHY.

Muscular Enlargement of the Heart.

Anything that throws an extra burden upon the heart may cause the muscular walls of the organ to become enlarged. Aneurisms, kidney and liver diseases, goitre, valvular troubles and any disease causing obstruction to circulation.

Symptoms.—When the enlargement is considerable, especially in women and children, there will be bulging of the chest walls. The heart impulse is increased and may be sufficient to be noticed through the bed clothing. In some cases the jugular vein is greatly enlarged and seems to throb. The patient may complain of difficulty in lying on the left side,

and breathing may be interfered with; dizziness, flashes of light, humming in the ears, cough, enlargement of the liver, irregular and rapid pulse, bleeding of the nose and dropsy may occur in bad cases.

Treatment.—Drugs are of little avail, but a long life of comparative comfort may be had by observing great precautions. Avoid tea and coffee and alcoholic drinks and tobacco, violent exercise, and emotions, and excesses, and constipation. over-eating and the use of starch and sugar. Provide an abundance of fresh air, use easily digested vegetables, lean meats, eggs, milk, broths and fruits. Take lime-water for acidity of the stomach. Frequent sponge baths are beneficial. For weakness of the heart pursue the treatment mentioned under Heart Dilatation.

HEART INFLAMMATION—ACUTE.

Acute Myocarditis.

When there is present in the system toxic particles from infective diseases they may find their way to the heart and lead to the formation of abscesses in the muscular body, which may discharge and be carried about with the circulation; or they may burrow through the walls of the cavities and cause great disturbances of circulation. The number of the abscesses may vary greatly. Their size is never large; but most serious results may follow. Diagnosis is difficult. The *treatment* accorded the infective disease present is all that can be relied upon for relief.

HEART INFLAMMATION—CHRONIC.

Chronic Myocarditis.

Chronic inflammation may follow rheumatism, gout, syphilis, injuries to the chest, long exposure to cold and excesses of all kinds, especially in the use of tobacco, tea, coffee and alcoholic drinks.

The symptoms may not be apparent until the disease is far advanced. Indigestion is commonly present,

also pain over the stomach and abdomen and heart; palpitation, and often intermittent, feeble and slow pulse, though there may be paroxysms of greatly accelerated heart action. Shortness of breath, bluish cast to the skin, catarrh and swelling of the glands of the neck are frequent. Death may occur suddenly at any time.

Treatment.—The origin of the disease must be ascertained and appropriately treated. When syphilis is the cause the probability of cure of the heart trouble is more favorable. The symptoms of heart failure which may arise must be met with promptness and vigor as mentioned for Endocarditis. The abandonment of harmful habits and excesses is imperative. Perfect quietude and light but nourishing diet are needed.

HEART INFLAMMATION—ENDOCARDITIS.

Inflammation of the Lining Membrane.

A serous membrane covers the cavities and valves of the heart. This often becomes inflamed during an attack of articular rheumatism, sometimes during Bright's disease, and occasionally during infective maladies, such as measles or child-bed fever, or with gout, gonorrhea, pneumonia or syphilis. Whenever there is a severe attack of articular rheumatism, endocarditis should be feared and guarded against. In the course of the attack of rheumatism, when the heart is involved, there will first be a sense of discomfort and palpitation, the heart beat at first being unusually strong; there may be chilliness, followed by heat and irregular perspiration, often very profuse, yellowish skin and pinched countenance, and great prostration, sometimes diarrhœa and delirium. Pain may be great about the heart and extend down the left arm and over the abdomen, often of a cutting character.

Treatment must be vigorous. Besides pushing the regular methods being employed for rheumatism, place over the chest hot fomentations of mullein leaves and capsicum, first rubbing the chest well with

stimulating liniment. Internally administer freely infusion of golden seal and scullcap containing compound tincture of myrrh. Mustard plasters to the feet are often required.

HEART INFLAMMATION—PERICARDITIS.

Inflammation of Heart Sac.

The membranous sac containing the heart is liable to inflammation. This is especially apt to occur during the course of other diseases, such as Bright's disease, rheumatism, scrofula, pleurisy, pneumonia, scarlet fever, aneurism, heart disease, etc.

Symptoms may be obscured by those of the existing disease. As a rule there will be distress in the region of the heart, with pain extending to the breast bone and left arm; inability to take a full breath, and pale and distressed countenance. The chest feels constricted and there is difficulty and distress in coughing and possibly in swallowing. The pulse at first is full and strong, possibly irregular or intermittent. Such a condition may last four or five days, when the heart's action grows weak and irregular and the skin cold and pallid. Death may be sudden within a few days, the sac becoming filled with serous fluid.

Treatment is similar to that given for Endocarditis (which see). Sometimes relief is obtained and life prolonged by drawing off a portion of the serous accumulation by means of an extremely fine exploring needle. This operation requires great skill. In rare cases there are no violent symptoms to designate pericarditis, the accumulation progressing slowly and the heart growing weaker and weaker, and breathing more difficult and the surface pallid and cold, followed by sudden death.

HEART INFLAMMATION—ULCERATIVE.

Ulceration of the Heart.

This is an almost certainly fatal condition, caused by infective poison finding its way to the heart and

causing ulceration of the valves or walls. It sometimes occurs during typhoid fever or other infective diseases, and the symptoms are so closely allied to those of severe forms of the infective malady present that only the most skillful can recognize the differences.

HEART—INTERMITTENT.

Missing of Heart-Beats.

Some persons become alarmed upon ascertaining that their heart pulsations drop one or more beats per minute; just as though they counted one, two, three (blank), five, six, seven (blank), etc. When the volume of the pulse is good, such an intermittent action is of no consequence, and is of common occurrence, especially in elderly persons or those undergoing mental strain. Disease of the brain or heart may likewise cause intermittence, but other symptoms are also present.

Many persons have the power to voluntarily alter their heart's action. When being examined for life insurance it becomes imperative to be able to control the impulses, for excitability or fear may cause great variations of the heart's actions. Thinking quietly of other matters will allow the pulse to act naturally. Controlling the mind is always an important factor in disease, and in heart troubles worry about the condition present and the possible future only adds to the difficulty.

HEART MISPLACEMENTS.

Floating Heart.

Occasionally persons are met with the heart in unnatural position. In nearly all these cases the misplacement is congenital; that is, the heart assumed the wrong position before birth. Sometimes the heart will be found far up toward the neck; again it may be far down, even in the abdominal cavity. The most frequent misplacement is a position in the right side,

and in such cases all the organs are reversed in position.

In rare instances malformation of the chest bones, or perhaps their undeveloped condition, will allow the heart to be felt as though directly beneath the skin.

Persons who have been suddenly reduced from great flesh to leanness, may have the structures so greatly weakened as to allow the heart to become movable from its usual position—causing the condition commonly known as floating heart.

HEART PALPITATION.

Tachycardia.

Persons of all ages and conditions, and those whose hearts are absolutely healthy, may suffer paroxysms of abnormal heart action. Nervous forms may be caused by fright, worry, grief, anger, joy, etc., and through the sympathetic nerve, by indigestion, sexual excesses, constipation, worms, colic, uterine disturbances, hysteria, etc. Too intense application to study, rapid growth and undue nervous strain may cause it in children. Poisonous drugs may cause palpitation and the immoderate use of alcohol, tea, coffee and tobacco are common causes.

Palpitation may be in the form of excessive frequency of the heart's action, possibly reaching 160 or more per minute; it may be in the nature of very slow heart's action, or it may be intermittent in character—every third, fourth, fifth, tenth or other beat being absent, or there may be great irregularity or a rolling motion to the heart. Sometimes palpitation is due to disturbances in the brain or spinal cord, and may possibly be a symptom of heart disease, when other conditions are present, but as a rule palpitation is a sympathetic trouble and should give no cause for alarm, nearly every one being attacked at some time, to a greater or less degree.

Symptoms.—Palpitation usually occurs in paroxysms; with dyspeptics soon after meals, with others at any time—frequently at night. Symptoms vary. There

may be great uneasiness about the heart, sense of constriction in the throat, difficulty of breathing, sense of anxiety, headache, flushes of heat or chilliness, perspiration, often faintness. All of these symptoms are rarely present in one case. Paroxysms may last from a few minutes to several hours, and may be frequent, perhaps several a day, or possibly one or two a year. Prolonged palpitation may give great weakness of the heart and prostration. An attack rarely proves fatal, but usually ceases suddenly and is followed by a free passage of urine and a sense of nervous relief.

Treatment.—Loosen the clothing and supply an abundance of fresh air. If the feet are cold give a hot foot bath. Administer a few drops of compound spirits of lavender in water, or ginger and lady slipper tea, or any diffusive. If the heart's action is weak give composition; if irregular, add goldenseal. If there is great nervous excitement give tincture of valarian, and if nervous prostration, give asafoetida pills. When attacks are frequent the cause must be ascertained and removed. Frequent sponge baths and plenty of fresh air are always advantageous. Overloaded stomachs may cause palpitation, when emetics will give quick relief.

Heart Parasites.—Parasites which affect other organs may invade the heart and form structures from the size of a grain of wheat to an orange. Detachments from them may enter the arteries and cause embolism and death.

HEART RUPTURE.

Cardiorrhexis Spontanea.

This may happen, especially to old persons, after the heart structures have become degenerate. Violent exercise or emotions may produce it, though it may occur during sleep. Sudden death is the rule, though there may be several hours of intense suffering. The

pulse becomes rapid and almost lost, the face pale and the whole surface cold and clammy; occasionally there is vomiting and purging.

Treatment.—There is seldom opportunity to do anything for relief. Compound tincture of myrrh, three drops in water, may be frequently administered for temporary relief. Persons suffering from heart disease should take every precaution against this fatal accident.

Heart Tumors.—Occasionally tumors form upon the heart and interfere with nutrition or produce obstruction to free valvular action and become causes of organic disease of the heart.

HEART WEAKNESS.

Cardiac Asthenia.

The heart is a muscular organ and is liable to become weakened on account of various conditions of the system, especially from strains on the nervous system, such as great anxiety, severe pain, sexual excesses, etc. Often heart weakness is taken for organic trouble, causing much unnecessary worryment.

Symptoms.—These are variable, and may include feeble pulsations manifested by a weak pulse, palpitation upon the least excitement or over-exertion, shortness of breath, faintness on trifling occasions and feelings of weakness upon awakening suddenly from sleep.

Treatment.—Proper habits of life and care in regulating the diet will do much toward strengthening the heart. Tea and coffee should be avoided, as well as all alcoholic liquors. Moderate out-door exercise and the cultivation of a cheerful disposition are great helps toward recovery. Cactina pillets, two before each meal, or ten drops of a mixture of equal parts of fluid extracts of goldenseal and mother-wort, will prove excellent for tonic purposes.

HEART WEAKNESS.

Tobacco or Smoker's Heart.

Persons addicted to the habit of using tobacco are sometimes affected by serious disturbances of the heart's action. The pulse may become small, frequent and irregular, and altogether too feeble to correspond with the temperament of the individual. The least exertion causes a feeling of heart weakness at times, which is depressing in character.

Treatment.—This consists in abandonment of the habit of using tobacco. Probably the best aid in overcoming the tobacco habit is to grind together one ounce of gentian root and half a pound of slippery-elm bark, steam until soft and then press into cakes and dry. A piece may be carried in the pocket and nibbles taken from it frequently. The saliva may be swallowed, and the gentian will prove tonic and the slippery-elm soothing. Many persons can chew or smoke tobacco almost constantly for many years without apparent evil effects. Persons of a sanguine temperament, florid in appearance, inclined to be fleshy and who are nervous in their ways, are most liable to have tobacco heart.

HEART VALVULAR DISEASE.

Organic Disease.

The principal organic diseases of the heart are those affecting the valves. They may be thickened, or lacerated, or degenerated, or malformed, or the orifices of the valves may be dilated, or vegetations or growths may be upon them. The exact nature of the difficulty can rarely be ascertained during life, but it is important to know whether or not the condition present obstructs the flow of blood or causes it to regurgitate. Aneurisms, fatty degenerations and various diseases may cause valvular troubles; they may also be brought about by excessive labor, and are very frequently hereditary. Persons in middle life or old age are frequently affected.

Symptoms.—The various symptoms of valvular diseases of the heart may be classified technically to differentiate the especial valves involved and the peculiar conditions present in each case, but such a classification is unnecessary for present purposes. All forms of valvular disease have many symptoms in common, which may be mentioned as follows:

Difficulty of breathing, a sense of suffocation or oppression in the chest, and a choking feeling in the throat; beating violently of the arteries of the neck, coughing, headache, paleness or lividness of the countenance, with an anxious look, are common; these are all increased upon slight exertion. There may be palpitation and pain about the heart, restlessness at night and bad dreams. As the disease advances breathing becomes extremely difficult, the kidneys become affected and dropsy follows, commencing with puffiness about the eyelids and ankles, and progressing rapidly.

Treatment.—Light, nutritious diet, fresh air, regular habits and quietude are necessities. Excitement, highly seasoned foods, tea, coffee, alcoholic liquors and tobacco and excesses of all kinds must be avoided. Narcotics must never be administered. Intercurrent diseases must be promptly and appropriately treated. As a heart tonic the following is most excellent: Fluid extracts of goldenseal, scullcap and motherwort, each one-half ounce, in syrup of ginger sufficient to make eight ounces. Dose, one teaspoonful night and morning. Frequent baths are beneficial and clothing should be changed regularly according to the weather. Persons suffering from valvular heart disease may live to extreme old age, but are liable to drop dead from indiscretions in diet or exercise.

Heatstroke.—See article on Sunstroke.

HECTIC FEVER.

Fever of Exhaustion.

Many exhausting diseases such as consumption, bone diseases, etc., cause disintegration of tissues,

and the products of such disintegration becoming absorbed cause a slow blood poisoning throughout the system marked by peculiar characteristics.

Symptoms.—These are not always of the same type, but embrace rise of bodily temperature during the afternoons or evenings, bright spots upon the cheeks, lustrous eyes, nervousness and restlessness, dryness of the tongue and mouth and dry surface. Such conditions may arise daily or every other day, and are followed by profuse night sweats and disappearance of fever. Such conditions are extremely exhaustive, and the patient's strength gradually fails. Swelling of the feet and lower limbs is soon noticed and severe sores present a low grade of ulceration in the mouth.

Treatment.—Pure air and pleasant surroundings are imperative, and the removal of the cause of the difficulty, if possible, should be the first aim. Abscesses should be evacuated, decayed portions of bones removed, etc. Frequent rubbings of the body by dry towels are beneficial for the night sweats. A drink of infusion of raspberry leaves and sage tea at bedtime will be found most excellent.

During the period of fever, substances cannot be employed to soften the skin, as they aggravate the night sweats. The compound gentian tonic (see formulas) may be given three times a day. For ulcerations of the mouth, there is nothing better than tincture of myrrh and fluid extract of hydrastis, a few drops each, in borax water. Should diarrhœa be an aggravating symptom, use the neutralizing cordial containing a few drops of tincture of kino.

HEMATEMESIS.

Vomiting of Blood.

By various causes blood may enter the stomach, usually as the result of injuries or of swallowing corrosives. It may be the result of violent vomiting or be present from other diseases, such as irregularities

of menstruation, cancers, ulcerations, throat troubles, etc.

Symptoms.—There are rarely any special indications beside the symptoms of the disease present and the vomiting of blood of a dark color resembling coffee grounds. The quantity is usually small, though it may be large and bright red if expelled soon after it has entered the stomach from a severe hemorrhage. Symptoms of loss of blood may be present.

Treatment should consist of rest, and severe cases should receive nourishment by rectal injections. Small bits of ice may be swallowed, and cold astringent infusions administered, such as of tannin or kino. Stimulants and other medicines, when required to sustain the strength and quiet the nervous system, should be given as enemas.

Hematocele.—A collection of blood about the testicle or ovary. It is usually caused by an injury or the bursting of a varicose vein. Hæmatocele, when not large, may possibly be absorbed, although surgical operation is almost always an absolute necessity.

Hematuria.—Blood in the urine. See article on Urine, abnormal conditions.

Hemeralopia.—This is a peculiar and as yet unexplained condition of the eyes. The person afflicted is unable to see at all by artificial light, although able to see perfectly well during the day time. It seems to be an individual peculiarity, considered incurable.

Hemicrania.—Headache upon one side. See article on Headache—Nervous.

Hemiplegia.—Paralysis upon one side of the body. See article on Paralysis.

Hemoptysis.—*Hemorrhage of the Lungs.*—See article on Lung Diseases.

HEMORRHAGE.

Bleeding. Loss of Blood.

Whenever a blood vessel, artery or vein, large or small, is severed, hemorrhage or bleeding will occur. If an artery is severed the blood will be bright red and spurt or flow quickly, while blood from a vein will be dark and flow slowly. As a rule, in small vessels, the blood will coagulate and form clots in the vessels and thus stop the hemorrhage.

Treatment for hemorrhage is given in the various articles on Epistaxis (bleeding from the nose), Lung Troubles—hemorrhage of the lungs, etc. Also see section on Accidents and Emergencies, and Diseases of Women.

Hemorrhoids.—See article on Piles.

Hepatitis.—*Inflammation of the Liver.*—See article on Diseases of the Liver.

HERNIA.

Protrusion of the Bowel. Rupture.

At the lower part of the abdomen in the groin are spaces between the muscles through which pass blood vessels, nerves, etc., and occasionally through these openings portions of the intestines may protrude, by violent exercise, straining, horseback riding, etc.

Symptoms.—A rupture may be recognized by a swelling at the part, increased by standing and coughing, and causing pain on walking.

Treatment.—The first thing to be done is to return the protruded portion of intestine. Place the patient on the back in such a position as to relax the muscles of the belly. Saturate cloths with strong lobelia infusion and lay them over the parts, and in an hour or so, after relaxation is secured, gently manipulate the intestine back to its proper place. Place a wad

of cotton over the spot (after return of the hernia) and saturate it with tannic acid solution or some other strong astringent. A truss must be secured and properly fitted by a reliable surgical instrument dealer or physician. If rupture is left too long unattended to strangulation may occur and cause mortification and death.

HERPES.

Fever and Cold Sores.

From possible disturbances of the nervous system, perhaps aggravated by stomach irregularities and sometimes by improper living, small groups of blisters may appear on various parts of the body. Sometimes these blisters will be on the lips, or on the extremities, and sometimes on the genitals. Pregnant women are occasionally troubled with herpes, usually upon the extremities. The vesicles seldom last beyond a week, and either burst and leave scabs or gradually disappear by absorption.

Treatment is seldom required beyond allaying the itching, which is often intolerable. Dusting the affected parts with starch and pulverized borax or using distilled extract of witch hazel is beneficial. The stomach may be disordered and the bowels irregular, in which case neutralizing cordial should be used. Persons troubled with herpes should ascertain the irregularities present in their systems and proceed to correct them.

Herpes Zoster.—See article on Shingles.

HICCOUGH.

Spasm of the Diaphragm. Singultus.

This is a very annoying difficulty and is extremely common and trifling in children, in consequence of an

excess of food or liquid in the stomach. Such cases are usually relieved by small doses of peppermint, neutralizing cordial, compound spirits of lavender, ginger, etc. Occasionally severe and protracted cases of hiccough occur in adults, becoming most distressing.

Placing the elbows out from the body and gradually bringing the finger tips as near as possible, without touching, often gives relief by steadying the diaphragm and getting the attention from the cough. Oil of cloves, a few drops on sugar, has been successfully employed. One case that continued for ten days, till the patient was exhausted and abandoned by his physician, was cured by teaspoonful doses of onion juice.

Hiccough is frequently a symptom of approaching death in severe diseases, though it may occur as a sign of weakness in debilitating maladies, such as diphtheria, typhoid fever, etc.

HIP-DISEASE.

Destruction of the Hip Joint.

This affliction is most frequent among scrofulous persons and especially in early life. It may be the result of diseased conditions or of injury; and it is surprising how slight a fall or other injury may produce serious results.

Symptoms.—Probably trouble will be first recognized as stiffness of the joint, the knee being bent upward when the patient lies on the back. The large bone of the thigh being fastened to the hip bone, there will be a hollow in the small of the back whenever the limb is forcibly straightened. Occasionally there may be fullness in the region of the joint; though as a rule the affected limb and the corresponding buttock will diminish in size. Limping will be noticeable, and there is usually considerable pain, which is sometimes felt as though on the inside of the knee. An abscess forms in the hip joint and the pus burrows. The head

of the thigh bone decays and decided shortening follows. Death is apt to follow from exhaustion, or else permanent stiffness and recovery may be the result.

Treatment.—Stimulating liniment as an outward appliance is serviceable. The general strength must be sustained by tonic and nourishing foods. Gelatine is most excellent along with broths. Abscesses and suppuration must be treated as laid down for those difficulties. If the limb is stiffened and crooked it may be thoroughly relaxed by lobelia fomentations and then straightened, when splints and apparatus manufactured especially for this purpose may be used. Such a difficulty requires the most skillful surgical treatment; and nursing and hygienic surroundings must be of the very best.

HIVES.

Nettle Rash. Urticaria.

This difficulty, frequently known as wheals, is very annoying and frequent among children, and occasionally with adults. It is usually caused by digestive derangements, such as are provoked by eating classes of foods which may be especially unacceptable to some stomachs. Honey and strawberries and cucumbers are often regarded as causes for hives.

Symptoms.—An attack lasts but a few days, consisting of hard, irregular and elevated patches upon the skin, usually white, surrounded by redness. They itch and burn and last but a few hours, possibly coming two or three times a day for a week. Fever is very seldom manifested.

Treatment consists in keeping the bowels open and using a tonic to the stomach, such as goldenseal infusion. Should there be sourness of the stomach nothing will be better than neutralizing cordial. Witch hazel extract applied externally allays the itching.

HODGKIN'S DISEASE.

Pseudo-Leukaemia.

Persons in early old age are the most frequent sufferers from this disease. It is characterized by white deposits in the spleen, liver or lungs, involving the lymphatic glands. Great paleness and weakness are prominent symptoms. The stomach becomes deranged and nutrition fails. Sometimes there will be chilliness followed by hectic form of fever. The slightest exertion is exhausting, stair-climbing being especially difficult. The gland beneath the jaw usually first commences to swell, and the cervical glands may one by one become involved, forming a chain of enlargements, often as large as hens' eggs, down to the collar bone. The glands soften and slowly separate, and if emptied they heal very slowly. It is a dangerous and annoying difficulty.

Treatment.—Poultice the swollen glands, but do not lance them. When they discharge syringe them thoroughly with boracic acid solution and then keep them covered with a salve of prepared earth and glycerine containing a little powdered myrrh. Dress them frequently. Internally give tartrate of iron and potassa and citric acid, half an ounce each, in eight ounces of water. Dose, a teaspoonful before meals. Compound gentian syrup is a suitable tonic. Keep the bowels open by liver pills. Hygienic measures and a light, nourishing diet are absolutely necessary.

Horns.—These are excrescences of the epidermis. They appear often without any apparent cause and may attain enormous size, resembling small horns of animals in rare cases. They may be shaved off and caustic applied at the place of detachment.

Horn-pox.—In some cases of small-pox the eruption does not become suppurative, but reaches the papular stage and is then arrested, causing the elevations to resemble a mass of warts. Treatment is, of course, the same as for ordinary small-pox.

HYDROA.

Pimples on the Hands and Knees.

Occasionally, without apparent cause, pimples varying in size from a pinhead to a small button, make their appearance upon the knees, back of the hands and wrists. Light redness surround the pimples, which are filled with transparent yellow liquid. They last a few days and disappear by absorption. Successive crops break out for three or four weeks. Sometimes they appear in the mouth or in the mucous membrane of the eyes. The chilly atmosphere and changeable weather of spring and fall seem to be chiefly responsible for the trouble, along with possible disturbed conditions of the stomach and blood.

Treatment.—Outward applications are not needed unless pimples appear on the mucous membrane, when a wash of borax in goldenseal infusion will be found serviceable. The bowels must be kept freely open by the liver pills, and acidity of the stomach relieved by neutralizing cordial. Persistent attacks require the use of compound syrup of yellow dock (see formulas). Frequent bathing with vigorous rubbings are excellent.

HYDROADENITIS.

Inflammation of Sweat Glands.

The sweat glands may become inflamed causing small lumps over the surface which do not suppurate, although they become red and tender. Such a condition is frequently caused by excessive exertion in warm weather, or running to the point of fatigue. Applications of cloths wrung out of hot water will give relief. If the spots grow dark stimulating liniment should be applied. Nourishing diet must be provided, and if there are glandular swellings, the compound syrup of yellow dock (see formulas) must be used internally. Hygienic regulations are important factors in the treatment of hydroadenitis and should be carefully observed.

HYDROMYELIA.

Cavities in the Spinal Cord.

Under ill-defined conditions, usually congenital, cavities of varied extent may be present in the spinal cord, which contain a serous fluid. The symptoms are obscure, often manifesting themselves in the form of atrophy or of eruptions, especially upon the hands, and contractions of the fingers and swelling and gangrene of their tips, resembling leprosy, have been noticed. There is no effective means of treatment beyond nourishing food and hygienic measures.

Hydropericardium.—This is dropsy about the heart, and is described under Diseases of the Heart.

HYDROPHOBIA.

Rabies.

This is probably one of the most frightful diseases from which human beings can suffer. Fortunately it is comparatively rare, and would be more so should the thousands of worthless dogs which infest cities be annihilated. It is a disease communicated by the poison in the saliva of rabid dogs, wolves and rats, and possibly some other animals. Rat terriers and spitz dogs are most liable to "go mad," and sometimes dogs that have been given the greatest care are attacked. Dogs developing the disease become restless, look suspicious and sick, are irritable and snappish and have no appetite. Soon furious symptoms commence, such as barking, biting and evidences of delirium and frothing of the mouth, followed by weakness, tottering and paralysis, drooping of the jaw and death. Rabid dogs do not have the reported aversion to water; they may even lap it, but are unable to swallow it. Bites through clothing may possibly be harmless by the virus being prevented from entering the wound.

Symptoms.—These rarely develop under six weeks from the time of being bitten, and may be delayed for

several months. Less than ten per cent of persons bitten by rabid animals develop hydrophobia. The early signs are restlessness and great sensitiveness to light and sounds, melancholy, bad sleep and sense of constriction about the throat. Before long difficulty of swallowing follows and catching of the breath. Soon there is dread of water, and spasms throughout the body upon the slightest provocation. There is sleeplessness, sense of fear and anxiety, great thirst, tenacious and abundant saliva.

Frightful symptoms now manifest themselves. Violent convulsions come on frequently, the victim throwing himself about madly, struggling for breath and strangling on his saliva, which also comes from the mouth. During intervals of spasms he warns attendants of their danger and realizes his dreadful condition. These symptoms may continue several days, the patient usually dying from exhaustion in from three to eight days.

Treatment.—Pasteur, of Paris, instituted a method of treatment for which much has been claimed, but when we consider that but ten per cent of those bitten contract the disease, and that Pasteur's treatment professes to be only a possible preventive and has never covered a developed case, we can put little if any trust in it. Most authorities declare the disease necessarily fatal. But it has been cured.

As soon as possible, after being bitten, tie a tight bandage or ligature above the wound and cauterize the wound freely with a red hot iron or nitric acid; any injury is preferable to possible development of hydrophobia. Nervousness and fear may develop symptoms easily mistaken for approaching spasms, and always aggravate the difficulty.

When actual symptoms of hydrophobia commence, relax the patient at once. To do this, lobelia must be used unsparingly. A teaspoonful of the herb in two cups of warm water should be given by injection every three hours or oftener and retained by compress if necessary. A weak infusion should also be given in teaspoonful doses by the mouth every ten minutes, or as often as it can be swallowed. Pulverized lady

slipper or scullcap herb may be added to the injections, and if the wound is angry, compound tincture of myrrh must be freely used upon it.

Hydrothionuria.—*Sulphur in the Urine.*—This may occur when there is suppuration in the intestines or elsewhere. The urine will have the odor of rotten eggs (sulphuretted hydrogen gas.) When this occurs, it is evidence that destruction is progressing somewhere, which should be attended to by appropriate treatment.

Hydrothorax.—This is sub-acute pleurisy, characterized by a quantity of fluid in the sac about the lungs. Described under Pleurisy.

HYPEREMIA.

Redness of the Skin.

Rubbing, scratching, pressure, exposure to heat or cold, or anger or shame, may produce blushing or redness of the skin. The condition is also common in the course of various acute maladies. The extreme sensitiveness of some persons to blushing may be overcome by turning the thoughts to other subjects. "Hardening the skin," by cold applications is successful.

Hypergeusia.—Nervous persons are not infrequently afflicted with this malady. It is an increased sensitiveness of the sense of taste. Often salt or pepper or condiments cannot be endured, and occasionally some simple articles seem to assume irritating characteristics. Relief is obtained only by treating the actual disorder.

HYPERIDROSIS.

Profuse Perspiration.

This condition may be general, in which case the whole body will be drenched with perspiration. It

commonly occurs in the course of constitutional diseases, and is extremely weakening. Local sweating is often annoying, the hands or feet or some portion of the body being affected. Profuse sweating of the feet makes them extremely tender and often offensive. Occasionally eczematous eruptions are started by hyperidrosis.

Treatment.—For general conditions the person afflicted should drink freely of sage and kino infusion. The body may be sponged with vinegar and water, and rubbed with a dry towel. For local sweating a powder of starch, one ounce, and tannic acid, two drachms, may be dusted upon the toes. The stockings may be saturated with this powder and thus worn constantly. As a rule there is some nervous difficulty or functional disturbance to be sought for and remedied by appropriate treatment.

Hypermetropia.—A condition of the crystalline lens of the eyes, usually occurring in old persons, by which objects are focused unnaturally upon the retina, causing the necessity of wearing glasses. See section on Diseases of the Eye.

Hyperosmia.—This is exaltation of the sense of smell. Some persons become so sensitive to odors as to be sickened by the least disagreeable whiffs, and are able to distinguish persons and substances by their individual odors. Blunting the nerve terminals by cold water douches and frequent pinches of powdered bayberry bark often relieves the extreme sensitiveness.

HYPOCHONDRIA.

Hypo.

Persons suffering from hypochondria are often ridiculed, but wrongly so. It is an actual disease, most distressing in character to the sufferer, and one of which he would be only too willing to be cured. It is a nervous condition, the exact seat of which cannot be

ascertained. Men are more liable than women to suffer from hypochondria, and they usually between the ages of thirty-five and fifty. Causes of the difficulty cannot always be ascertained; often a taint of insanity in the family may be discovered.

Symptoms.—These are very diverse in many respects. The main symptom of hypochondria is the patient's imagining that some serious organic disease has fastened itself upon him. He will relate his feelings to everyone willing to listen and ask if they "ever had anything like it." He will visit various physicians and clinics and exaggerate his symptoms, telling different tales to different physicians, and become convinced that they do not understand his case. He will prescribe for himself and swill himself with nauseous drugs, for he is anxious to get well. He often declares he wishes he could die, but takes great pains to prolong his life. He cannot get his thoughts off of himself night or day. But his troubles are not all imaginary. Usually symptoms of dyspepsia are present, excessive appetite and distress after eating, possibly heartburn and disturbances of breathing from pressure of gas in the stomach. These signs lead him to believe he has heart trouble, especially as palpitation often occurs. He will usually read medical works and come to the conclusion that he has a hopeless organic disease. He may grow despondent at times, though during intervals may attend to business and be cheerful and apparently without concern with strangers. Persistence and indulgence in such thoughts and experiences gradually have their physical effect and his strength begins to fail and he may fall away in flesh and become pale or sallow.

Treatment.—Secure the confidence of the patient by considering his real sufferings and never ridiculing his expressions. Direct his mind off of himself, establish an aim in his life and interest him in it. Keep him from reading medical works and talk as little as possible with him concerning his case except about his actual symptoms and the assurance of their gradual relief. Excesses in all things must be forbidden, ex-

ercise can be allowed only in moderation, never to the point of fatigue. A diet of fruit and vegetables is advisable. Nutrition is all important, egg-nog (plain) is excellent, but alcoholic liquors, tea and coffee must be prohibited. Change of climate and of habits are most beneficial and often bringing about a speedy and permanent cure.

Medication should not be directed to the relief of symptoms, but to the general toning up of the system. The compound syrup of gentian (see formulas) is excellent. The bowels must be kept free, better by an abundance of fruits and laxative foods than by drugs. If there is a rheumatic taint back of the difficulty lithia water will be found most excellent.

HYSTERICIS.

Nervous Convulsions.

This is a most annoying nervous disorder, the exact seat of which cannot in all cases be located. Young women, and unmarried women approaching the change of life, are the ones chiefly affected; though persons of any age may be affected. Anxiety, overwork, indigestion, menstruation, indolence, excesses of all kinds, grief, indulgence in morbid or lascivious thoughts and in some instances downright perverseness are all causes of hysterics and the cause should be properly ascertained in each case in order to deal successfully with hysterical persons.

Symptoms.—A person never takes a fit of hysterics while asleep, but always manages that others shall be present, an uncontrollable desire for sympathy or for frightening or disturbing others being a prominent symptom. An attack is gradual and the patient prepares herself for it. Usually the commencement is a sob, a laugh, a sigh and random or excessive talking in rapid succession. There may be twitching of the limbs and even violent convulsions, the patient throwing herself about, apparently unconscious, but taking care to prevent injury or too much dishevelment of the dress. The teeth may grit and gurgling sounds and

possibly saliva come from the mouth. The pulse is normal and the face not livid. Belchings may occur and free discharge of urine follow an attack, preceded by crying, laughing, yawning, etc., and then exhaustion.

Treatment.—Firmness, but not cruelty, must be exercised. Excitement or sympathy about the patient must not be allowed. Ascertain the cause of the fit and act accordingly. If from perverseness dash a small cup of water in the face and follow it by several more at intervals. But do not be too hasty in concluding it is only “ugliness.” Girls are sensitive about mentioning menstrual disorders, and such often cause uncontrollable hysterical fits, calling for the greatest kindness. Smelling salts and the administration of valerian and compound spirits of lavender are beneficial. Never scold or make fun of hysterical persons after their attacks; and do not dwell upon them or speak of their difficulty as “simply hysterics.” Take as little notice of them as possible.

ICHOR.

Unhealthy Pus.

This is the name given to the thin and acrid pus which flows from unhealthy wounds that are not inclined to heal. In extensive wounds the appearance of ichor is always a bad indication and calls for prompt action in sustaining the system by such stimulation as large and frequent drinks of composition infusion (see formulas). In such cases the wound must also be thoroughly cleansed two or three times a day with diluted compound tincture of myrrh, or by injections of fifty per cent solution of peroxyde of hydrogen.

Icterus.—See article on Jaundice.

IDIOCY.

Imbecility. Cretinism.

This is an imperfect development of the whole body in general and the head in particular. Idiocy, inability to hear or talk and impaired sensibility are peculiarities of complete cretinism. Some are only partially affected, and nearly all suffer goitre. The valleys of some mountainous countries abound with cretans. It is said that marriages of cousins or blood relatives, or of persons afflicted with goitre, whose parents were similarly affected, are apt to result in offspring of cretans. Idiotic asylums are the proper places for persons thus affected. Should the difficulty be recognized soon after birth, hygienic measures might be employed to advantage.

Ileus.—This is constriction of the bowels or intestines, causing obstruction and most serious consequences. It is fully considered in the article on Bowel Trouble.

Impetigo.—This is a skin affection very closely allied to eczema, pustules being formed about the hair follicles upon the head, hands and face. Thick crusts and scabs make the disease most disgusting. The general treatment laid down for eczema will prove efficient. Great cleanliness and the internal and external use of sulphur are indicated. Scabs may be removed by poultices.

Impetigo Contagioso.—A contagious form of the above, accompanied by fever and the formation of scabs very much resembling vaccination scabs and often appearing like isolated small-pox pustules.

IMPOTENCY.

Sexual Incapacity and Debility.

Through excesses, bad habits, various diseases and many other causes men may lose their sexual powers

and suffer from impotency. Much has been written upon this subject that is calculated to frighten individuals into the cessation of bad habits. But impotency, like all other diseases, is an unnatural condition, and its careful consideration and judicious treatment will produce far better results than fright.

The author has, during the past twenty-five years, given especial attention to the treatment of impotency, and although all classes of cases have come under his care, he has yet to meet the first incurable case. Impotency is one of the curable diseases, although one of the most humiliating and discouraging. It is more fully considered in the section on Diseases of the Generative Organs.

Inanition.—This is simply lack of nourishment and may be caused from an insufficient supply of food, or from diseased conditions preventing the assimilation of food. See the articles on Marasmus and Starvation.

Incontinence of Urine.—*Enuresis.*—This annoying difficulty, frequent to children and old and feeble persons, is fully considered in the article on Bed-Wetting.

INDIGESTION.

Stomach Distress after Eating.

Under this title many disturbances of the stomach have been classed and other names given them according to their individual characteristics, such as heartburn, gastralgia, etc. But indigestion proper is simply an arrest of digestion and a consequent crowding of blood upon the stomach and liver.

Symptoms.—An attack comes on some time after eating, causing paroxysms of pain in the stomach and back. The patient may retch and become cold and clammy and very pale and experience great misery. After several hours of suffering the paroxysms gradually cease; leaving weakness, loss of appetite and

constipation for several days, and liability to renewed attacks.

Treatment.—Rub stimulating liniment over the stomach, give an emetic of warm salt water. Bathe the feet in hot water and internally administer five-drop doses of compound spirits of lavender in water containing soda, and followed by infusion of ginger. After an attack diet must be rigidly guarded and hygienic measures—bathing and exercise—provided. See articles on Dyspepsia, and Catarrh of the Stomach.

Indolent Ulcers.—These are ulcers which refuse to heal on account of unfavorable conditions of the system, or from neglect or improper treatment. They may continue for many years and finally be healed by proper treatment. They are fully considered in the article on Ulcers.

Inebriety.—See the article on Alcoholism.

INFLAMMATION.

Increased Activity of Local Circulation.

In general, inflammation, marked by redness, swelling and sensitiveness, may be considered the reaction of the tissues to injuries or obstructions which are not sufficient to cause destruction of the parts. In some cases the inflammation (increased activity) may be sufficient to overcome the obstruction and restore freedom of action. In other instances the excess of blood will be sufficient to repair damages done by injuries, as in the cases of cuts, broken bones, etc.

Very frequently the excessive action, manifested by inflammation, fails to accomplish its purpose, and the increase of blood becomes stagnated and serious consequences follow. Thus, while inflammation is not of itself a disease, it must be appropriately treated that Nature's effort may be aided and not thwarted. Always regard inflammation as a vital effort to remove obstructions and act accordingly. This is not the

usual view taken of inflammation, but it is the reasonable view, and indicates the proper course of treatment. When the injuries or obstructions are profound, increased vital efforts to overcome them may prove unavailing. The first indication of this will be a tendency to congestion, and if this progresses the parts will become dark with stagnated blood, and gradually vitality will lose control of the tissues and they will fall under chemical forces and degenerate and suppuration will take place.

Treatment.—In all forms of inflammation the minute blood vessels are liable to become over-crowded and dilated and their walls must be strengthened; applications of cold water or of distilled witch hazel extract will in mild cases sufficiently tone the parts to prevent over dilation of the capillaries. When the inflammation is in mucous surfaces, such as the throat and eye membranes, where the tissues are very soft and the small blood-vessels easily dilated, mild astringents must always be employed. In deep-seated and dense structures, joints, etc., where the walls of the blood-vessels are naturally firm, the tissues must be relaxed that the force of increased vital reaction may the more readily be enabled to overcome the obstructions present. In such cases the infusion or tincture of lobelia or other relaxants should be employed. Inflammations of various organs and structures are considered in the articles treating of diseases of those organs and structures.

Inflammation of the Bladder.—*Cystitis.*—See article on Bladder Difficulties.

Inflammation of the Bowels.—See Bowel Difficulties.

Inflammation of the Brain.—*Cerebritis.*—See the article on Brain Diseases.

Inflammation of the Bronchi.—See Bronchitis.

Inflammation of the Eye and Ear.—See the section on Diseases of the Eye and Ear.

Inflammation of the Kidneys.—*Nephritis*.—See article on Kidney Diseases.

Inflammation of the Larynx.—See article on Laryngitis.

Inflammation of the Liver.—*Hepatitis*.—See Liver Diseases.

Inflammation of the Lungs.—*Pneumonitis*.—See article on Pneumonia.

Inflammation of the Peritoneum.—See article on Peritonitis.

Inflammation of the Pleurae.—*Pleuritis*.—See Pleurisy.

Inflammation of the Stomach.—*Gastritis*.—See Stomach Troubles.

Inflammation of the Throat.—See Throat Diseases.

Inflammation of the Tonsils.—*Tonsillitis*.—See article on Throat Diseases.

Inflammation of the Vagina.—*Vaginitis*.—See section on Diseases of Women.

Inflammation of the Womb.—*Metritis*.—See section on Diseases of Women.

INFLAMMATORY FEVER.

Sthenic or Ardent Fever. Synocha.

This form of fever is mostly confined to those of plethoric habits, and may be caused by over-eating, sudden cold, exposures, etc.

Symptoms.—At first a feeling of depression with chilliness, quickly followed by high fever. The body becomes intensely hot, the temperature probably reaching 106°. The pulse is high and full, and every blood vessel over the body seems to throb almost to bursting. The face is bright red and burning sensations are experienced. Occasionally there will be delirium. The urine is scanty and the bowels constipated, and the tongue coated white, yellow or brown.

The obstructions in the system, which cause such intense vital manifestations, are great, and if not overcome quickly, serious consequences follow. In a few days the pulse becomes feebler and more frequent, the skin assumes a darker color, the tongue becomes brown and dry, the urine is scanty and high colored, and the mind becomes drowsy. Such a state of affairs is known as the typhoid condition and will prove fatal if not relieved.

Treatment.—The first thing to accomplish is to unload the bowels. Give a large enema of boneset infusion in slippery-elm water. Allow the patient to drink freely of spearmint tea or other mild relaxant. During the height of the fever give an infusion of pleurisy root, two ounces; lady slipper, one ounce; ginger, one-fourth ounce, in a quart of boiling water. Dose, half a teacupful every half hour.

Bathe the body with luke-warm water and provide fresh air and absolute quietude. If the stomach is foul, shown by a heavily coated tongue, a relaxing emetic should be given (see article on Emetics).

Should the pulse grow weak and frequent and the face darker and the strength fail, use composition, one ounce; goldenseal, one-half ounce; queen of the meadow, one-half ounce, in a pint of boiling water. Dose, a tablespoonful every hour. Diet must be extremely light and nourishing, and care must be taken not to allow too early exertion.

Influenza.—This is a mild form of grippe, and the term is also used to designate a severe form of catarrh accompanied by fever. See the articles on Grippe and Catarrh.

INSANITY.

Mental Aberrations.

A great many nervous disturbances are classified under the general term of insanity, all of which have as a prominent symptom greater or less inability of the patient to exercise will power over thoughts or actions. The number of insane persons is very large, and is constantly increasing, due to the modern life of worry and excesses, coupled with the use of narcotics, headache powders, hypodermic injections, etc. Many persons afflicted with insanity recover and become most active brain workers. Some of the most noted characters of history passed through periods of insanity. It is a disease, curable or incurable, according to the individual nature of the case and the circumstances surrounding it.

The causes of insanity are varied, such as grief, fright, worry, self-abuse, unsatisfied longings, improper living, functional disturbance, especially of the sexual organs. A family taint of insanity may exist, when slight causes may produce the disease. It is common to excuse rash acts or disagreeable or criminal performances by regarding as insane the person committing them. Many insanity experts take the ground that the normal mind will live at peace with all mankind and harbor no feelings of revenge, malice, etc., and that all others are abnormal and consequently more or less insane. Accepting such ideas we would all be partially irresponsible for evil acts on account of abnormal conditions.

The ideal human mind cannot be taken as the standard of sanity. Eccentricities, bad natures, self indulgences and individual peculiarities are not incompatible with sanity, and downright viciousness or ugliness should not be excused upon the ground of insanity.

Dementia is a low grade of insanity, often a sequence of milder forms, the unfortunate victim being absolutely incapable of controlling speech or actions, stupidity being a pronounced characteristic. Persons suffering from dementia may become dangerously violent at times. Such cases are occasionally curable.

Kleptomania is a mild form of insanity. The sufferer loses all control of the power to resist temptation to steal. Many women in high life are thus afflicted, and the disease is growing. Unrestrained covetous thoughts may be mentioned as the great cause of kleptomania, and there is little sympathy for persons who allow themselves to run into this degrading condition. Still this form of insanity may be manifested in little children who deserve great sympathy.

Dypsomania is the uncontrollable impulse to deliberately enter into a debauch. The condition is a pronounced disease of the brain, and persons thus afflicted should be sent to retreats or asylums and not cruelly forced into reformatories or prisons.

Melancholia is an inability to keep the mind from brooding over gloomy thoughts or forebodings. Disappointments in love, grief over the death of friends or relatives, especially at the change of life, are frequent causes of melancholia. It is the most frequently curable form of insanity.

Pyromania is manifested by an uncontrollable desire to start a conflagration. This form of insanity is frequently manifested in children.

Other forms of insanity are named, according to their most prominent symptoms, and it very frequently becomes difficult to exactly determine when a person is or is not insane, for an exact and impregnable definition cannot be given of the disease. Insanity experts, by long association with the insane, are apt to become convinced that all unusual acts are due to insanity, and they themselves would frequently be classed as insane under their own definitions.

Treatment.—Violently insane persons, who manifest a tendency to do mischief, should be confined in asylums or retreats. They cannot be trusted, and in addition to the burden their condition enforces upon the family, they are liable to inflict great sorrow and suffering by their abuse and perhaps homicide of some member of the family.

Melancholia is distressing, but gives hope for recovery. As long as patients do not evince suicidal tendencies they should be kept with relatives. Traveling, change of habits and surroundings, patience and careful nursing may accomplish much. Such persons cannot be argued out of their melancholy thoughts. It is best not to scold or laugh at their expressions, but to endeavor, without their knowing it, to turn their thoughts upon other subjects. Years may be necessary to overcome melancholy.

Every case of insanity must be treated upon its individual characteristics. The functional disturbances must be ascertained and properly attended to. Opium and narcotics of all kinds must be positively forbidden, and soothing nervines employed. Exercise must be provided if possible, and nothing but the greatest kindness shown upon all occasions. Frequent bathing, most nourishing and easily digested foods, fresh air, daily evacuations of the bowels and kindness may work wonders in cases of insanity.

INSOMNIA.

Wakefulness. Sleeplessness.

Lying awake at night for hours may or may not be a serious matter. Worry, excitement and over-eating may cause sleeplessness without serious consequences for a time, though constant loss of sleep is always injurious. Just what constitutes a normal amount of sleep depends upon temperament and habit. Some of the greatest workers require but six hours while others need ten. Usually elderly women arise with the lark and are in no hurry to retire at night.

When sleeplessness is not temporary, but occurs night after night, there is probably a disturbance of the nervous system which needs correcting. Habits often cause sleeplessness, such as sleeping in the chair immediately after supper, planning for the next day after retiring, or thinking of the past day's work. Often persons who claim to have "not slept at all," do sleep without being conscious of it.

Treatment.—Never use opium preparations, bromides, chloral or narcotics in any form to overcome sleeplessness; they will do far more injury than good. See to it that the causes mentioned are discontinued and if sleep is not obtained readily observe the following and select the most appropriate means.

Take a walk after supper or engage in active conversation or employment till bedtime. Indulge in a ten or fifteen minute bath in luke-warm water before retiring. Drink an infusion of lady-slipper and camomile at bedtime. Sleep with the head very high to prevent rush of blood to the head, or place a cold wet cloth on the forehead. Dismiss all thoughts from the mind; do not even think of the sleeplessness; let the mind be a blank, it can be done, and it is the very best method of procuring sleep; it is a self-hypnotism. A three-grain asafœtida pill taken an hour or later after supper will allay nervous irritability, likewise five-drop doses of fluid extract of valerian in anise water every half hour will be beneficial.

Intermittent Fever.—See article on Ague.

Intussusception.—See obstruction of the bowels in the article on Bowel Troubles.

Invagination.—A condition of the bowels where one portion telescopes into another and thereby cause obstruction and fatal results if not promptly relieved.

Inverted Toenails.—See article on Onychia.

ITCH.

Scabies.

This is an infection of the skin which for years went by the name of "seven years' itch," on account of its apparent resistance to treatment. But since its nature became known it has become a simple thing to overcome. Its cause is a minute insect known as the itch mite (*acarus scabies*). This burrows beneath the

skin where there is warmth and moisture or where the skin is thin. It is not found upon the face, but usually appears between the fingers, on the front of the forearm and wrists, in front of the elbows and occasionally on the genital organs. In children the buttocks and feet are favorite localities. Itching is intolerable, especially at night, when the body is warm. Irritation and scratching cause the formation of pimples, wheals, pustules and crusts.

Treatment.—Mix one drachm of sulphur with one ounce of vaseline and apply thoroughly over the skin, wear tight drawers, stockings and gloves night and day. Repeat the application every forty-eight hours three times. Too free use of sulphur causes rash. Before each application, thoroughly wash the body with tar soap. A few days will thus completely cure itch. Wash all clothing with boiling water, but clothing which cannot be washed must be ironed with a hot iron to destroy insects which may cling to them.

JAUNDICE.

Icterus.

Any disease which causes obstruction to the flow of bile through the ducts or suppresses the secretion of bile so that its ingredients enter into the circulation, may be a cause of jaundice. Atrophy, or congestion of the liver, malaria, tumors, cancers, some forms of intestinal diseases and various maladies may all give rise to the difficulty.

Symptoms.—Yellowness of the skin is first noticed about the ears, and in the conjunctiva of the eyes and whites of the eyes. The tongue is yellow, and digestion disturbed, there is a bitter taste in the mouth, the bowels are constipated and the passages usually clay-colored. Diarrhœa may occur for a short time. Pulse

rate is diminished, also the volume of blood through the arteries. The mind becomes melancholy. The perspiration and the urine may be tinged yellow and a slight and irritating eruption often makes its appearance.

Severe cases of long duration, tending to a fatal termination, give hemorrhages from the nose, stomach or bowels, perhaps dark and bloody urine, delirium, convulsions or stupor.

Treatment.—Diet is important. Coffee and alcoholic liquors must be forbidden, exposures to cold must be avoided and precautions taken against excesses of all kinds. Lemonade and acid drinks and pure water in abundance may be allowed. Liquid diet is best, but all fatty substances must be excluded. Frequent bathing in warm water containing soda should be practiced. The bowels may be moved by injection and by taking drinks of senna tea or salts, or large doses of aromatic syrup of rhubarb. Each night take a teaspoonful of the following: Fluid extracts bitter root and cascara, each one-half ounce, in syrup of ginger, seven ounces. Before each meal an infusion of golden-seal and peach leaves is advisable.

In chronic cases a small amount of fluid extract of juniper may be added to the compound gentian syrup, to be taken three times a day. When there is diarrhœa the neutralizing cordial is indicated. A few grains of hyposulphite of soda held in the mouth may lessen the bitter taste of the bile and prove otherwise beneficial.

JOINT DISEASES.

Inflammation. Abscess. White Swelling.

From injuries, exposures to cold and other causes, various joints of the body may become diseased, most commonly in the form of inflammation or suppuration.

Synovitis.—Inflammation of a joint is called synovitis, and the symptoms are pain, swelling, heat and tenderness. There is usually feverishness and a puffy

appearance in the region of the joint. Unless constitutional disease is present, such as scrofula or syphilis, recovery may be confidently expected.

Treatment requires perfect rest, the joint being fixed in one position by splints or otherwise. Cotton saturated with distilled extract of hamamelis should be applied and held in position by bandages. When the pain is intense and the swelling great, with tenseness of the parts, hot fomentations of lobelia herb may be applied. The bowels must be kept open and a light diet allowed. Restlessness may require small doses of lady slipper infusion.

Abscess of the joint is a severe difficulty, characterized by pain, heat, swelling and redness. Chills, followed by high fever, are common, and there is fluctuation in the neighborhood of the joint. The limb becomes fixed in one position and there is great danger of the use of the joint being lost, causing ankylosis. Blood-poisoning may set in and endanger the life of the old or feeble.

Treatment necessitates the service of a surgeon to open the abscess and apply the proper bandages and splints.

White Swelling or scrofulous knee-joint is a severe difficulty which may last for years, causing pain and swelling and stiffness of the joint. Persons of scrofulous diathesis may provoke this condition by injudicious use of the joint or by injury to it. Blows and heavy falls upon the knee, and constant kneeling, as in scrubbing, are frequent causes of white swelling, especially in unhealthy persons.

Treatment.—Surgical operations are sometimes necessary. Compound syrup of yellow dock (see formulas) should be used internally, and stimulating liniment externally. The most nutritious diet should be provided, and every effort made to maintain nutrition and a healthy circulation.

KIDNEY CONGESTION.

Venous Hyperaemia of the Kidneys.

Exposure to cold or dampness and interference with venous circulation, as in liver troubles, injuries and the use of irritating agents such as turpentine, Spanish flies, saltpetre, etc., may cause congestion of the kidneys.

Symptoms.—The flow of urine diminishes, and upon standing a sediment is seen. There may be a sense of fullness and dull pain and tenderness in the region of the kidneys. Usually the symptoms of disturbances of the liver are well marked, such as sallowness, constipation and loss of appetite and dizziness.

Treatment.—This difficulty of the kidneys is secondary to other troubles which must be first relieved. As a rule the following will be found valuable: Take fluid extracts cascara, goldenseal and althea, each one-half ounce, in syrup of ginger for eight ounces. Dose, a teaspoonful after each meal. Let the patient drink freely of an infusion of mint and shepherd's purse. Rest in bed is usually imperative. Fomentations of smart weed and mullein over the small of the back will give prompt relief. Diet must be nourishing but moderate in quantity.

KIDNEY INFLAMMATION—ACUTE.

Nephritis.

The kidneys may become inflamed by exposures to cold, or the use of irritating fluids internally, such as turpentine, Spanish flies, etc. In the course of scarlet fever desquamation may prove very irritating to the kidneys and be followed by nephritis.

Symptoms.—These are pain and tenderness in the small of the back, sometimes extending to the groins and bladder, headache and feverishness, high-colored and scanty urine, often mingled with blood or pus.

Following back injuries such symptoms are bad, and in scarlet fever, dropsy is liable to follow. Congestion is liable to follow inflammation.

Treatment.—If there is fever, give a strong infusion of pleurisy root and marsh-mallows. In all cases provide quietude and light food, allowing no tea, or coffee or meats. Over the small of the back rub equal parts of tinctures of lobelia and mullein. Internally use, every three hours, one-fourth of an infusion of shepherd's purse, peach leaves and hollyhock flowers, each one ounce, in one quart of boiling water. If there is blood in the urine, add witch hazel leaves, and if there is pus, put in a small amount of myrrh.

KIDNEY—INFLAMMATION OF CAPSULE.

Addison's Disease.

The supra-renal capsule, situated, as a sort of protection, above the kidney, may undergo cheesy degeneration, from causes not fully known; though it may follow injuries, or accompany cancer, tuberculosis and other diseases. It is a serious disease and is usually fatal within three months' time, though cases may live two or three years.

Symptoms.—The premonitory signs are not marked. The general symptoms may include headache, pain in the back and about the stomach, persistent diarrhœa, dyspepsia and vomiting. Pulse is small and frequent. Great debility progresses, sometimes almost amounting to paralysis of the lower limbs. Pains of a rheumatic character may be experienced, also delirium and convulsions toward the end. The most characteristic symptom of Addison's disease is discoloration of the skin. Spots appear over the body, of a dirty bronze color, often giving the appearance of a mulatto, with the palms and soles white, and the nails and whites of the eyes pearly. The appearance is that of a "spotted man," though the spots may run together all over the body.

Treatment must be for the alleviation of the symptoms, and good nourishment, fresh air and other hygienic measures provided.

Kidney Inflammation (Diffuse).—This is fully considered in the article on Bright's Disease.

KIDNEY ISCHAEMIA.

Arterial Spasm.

During pregnancy, cholera, tuberculosis, cancer, chlorosis and several other diseases, the arterial supply to the kidneys is liable to be greatly interfered with at times. The symptoms may be trifling and confined to scantiness of urine and the presence of albumen. But graver manifestations may occur, such as dropsical effusions beneath the skin, headache, diarrhoea, and vomiting and convulsions, known during pregnancy as eclampsia. Ordinary cases require great attention to nutrition, and convulsions are treated by injections to the rectum of infusions of scullcap, lady-slipper and cramp bark.

KIDNEY—MOVABLE OR FLOATING.

Ren Mobilis.

From various causes, such as injury, congestion, general weakness, difficult labor, hernia, tight lacing, decrease in flesh, etc., a kidney, especially the right one, may become loosened from its natural attachments and literally float about in the abdominal cavity.

Symptoms.—Various symptoms may present themselves. Vomiting, clammy perspiration, scantiness of urine and occasionally presence of blood in the urine and distress in passing it may be noticed. Sometimes the kidney may be distinctly felt out of position, and pressure upon it will cause a sickening feeling. Hysterical symptoms are apt to be manifested.

Treatment consists of improving the general health according to the nature of the disturbances and removing the provoking cause of the displacement. Surgical operations are often absolutely necessary.

KIDNEY—RARE DISEASES.

Cancer. Dropsy. Amyloid, Etc.

Among the rare diseases of the kidneys may be mentioned tubercles, cancerous growths, cysts, dropsy, partial adherence of the two kidneys, known as horse-shoe kidney; absence of one of the kidneys, fatty kidney, obstruction of an artery, and waxy or amyloid kidney. These conditions require a perfect knowledge of diseases for their recognition.

KIDNEY SUPPURATION.

Renal Abscess.

Injuries, gravel, blood poisoning and various other causes may result in suppuration of the kidneys or their lining membranes.

The *symptoms* embrace severe pain in the small of the back, shooting to the thighs, bladder, urethra and testicles, accompanied by great tenderness. Chills are the first indication, followed by fever and prostration. The urine is scanty and may contain blood, and when abscess in the kidney forms and bursts, pus may be present in the urine. The testicles are usually drawn up, and symptoms of uræmic poisoning may be present. Sometimes a large abscess forms in the kidneys and bursts outwardly.

Treatment must be energetic. Composition infusion containing goldenseal must be given freely, and when there are evidences of pus in the urine, tincture of myrrh should be added. The action of the skin must be maintained by vigorous rubbing and warm baths. Very nourishing foods must be provided.

Kidney Tumors.—These are easily recognized by their size and shape in the region of the kidneys. They are immovable and cause varying degrees of disturbances. Their removal by surgical operation is the only treatment available.

Kink-Cough.—A term occasionally applied to whooping cough.

KNOCK-KNEE.

Genu Valgum.

This is a deformity consisting of the bending of the knees inward. It is usually the result of rickets in children, or of too long standing, or carrying excessive burdens by people of weakened constitutions, especially about the age of puberty (fourteen years). Many cases of knock-knee are cured in childhood by the application of splints or suitable apparatus manufactured by surgical instrument-makers. Operations of a difficult nature are occasionally resorted to.

Kyphosis.—A disease of the spine where the spinal column in the lumbar region is bent backward.

LARYNGITIS.

Inflammation of Larynx.

Exposures to cold or dampness, inhalations of irritating vapors and over-use of the vocal organs may be causes of laryngitis; though various diseases or enfeebled conditions of the system may bring about the difficulty.

Symptoms.—Usually laryngitis is ushered in by the ordinary symptoms of acute catarrh, with feelings

of irritation in the throat. The voice grows weak and may amount to nothing more than a whisper; there will be a tickling and dry cough and, in a short time, expectoration of thin mucus, which, in prolonged cases, may contain blood or purulent material.

In small children there may be nightly attacks of false croup. In most cases there is considerable difficulty in swallowing, and sometimes difficult breathing, which, in severe cases, bring about symptoms of threatened suffocation; and there may be great paleness, irregular pulse, stupor and death. The tissues about the vocal cords may become greatly swollen, causing œdema glottidis. In such a case the patient becomes livid and can scarcely breathe, grows cold and weak and, unless relieved, will die within a few hours.

Treatment.—Nearly all cases are easily managed. The bowels must be kept open with salts or senna. A gargle of raspberry leaves in infusion, containing a little borax, will be most useful. A flannel may be tied about the neck, saturated with some kind of mild liniment. Flax-seed tea, containing lemon and licorice, is soothing and pleasant.

Severe cases need more vigorous treatment. Use a spray of eucalyptol and menthol in glycerine, or of tincture of myrrh and a little borax in infusion of goldenseal. Stimulating liniment should be applied to the outside of the throat and the feet should be frequently bathed in hot water containing vinegar. Broths, soups and milk should constitute the diet.

Oedema Glottidis.—This is swelling about the vocal organs, and when it occurs life is in danger. Administer at once a teaspoonful of tincture of kino, or of tannic acid infusion, and repeat in small doses every half hour. It may be necessary to administer by using the spray. Convalescence may be slow, and probably many days will elapse before the voice can be used as well and safely as formerly. Œdema glottidis may be caused by sudden compression of the throat resulting from accidental injuries. In all cases action must be prompt or death will occur suddenly.

LARYNX—CHRONIC CONGESTION.

Chronic Laryngeal Catarrh.

Some persons who have neglected acute cases of laryngitis, or who are intemperate in eating or use tobacco or alcoholic liquors, may be troubled with this chronic form of throat trouble, which is very annoying and difficult to overcome.

Symptoms.—These usually include extreme hoarseness of the voice or suppression of the voice to a muffled whisper, and a cracked sound to it when singing; hacking and tickling cough and expectoration of small, jelly-like lumps of mucus. The condition may develop ulceration and possibly become malignant.

Treatment.—This must be persistent and necessitates as much rest from using the voice as possible, preferable removal to an equable and dry climate, nourishing food and some mild digestive tonic. Coltsfoot candy is excellent in place of lozenges. Goldenseal infusion mixed with witch hazel extract is an excellent spray. Fluid extract of collinsonia, one drachm, in two ounces of wild cherry syrup makes an excellent preparation. If the palate has fallen down touch it with dry tannic acid.

Lead Colic.—See article on Painter's Colic.

LEPROSY.

Elephantiasis Graecorum.

This is one of the most ancient diseases, and is widely prevalent in Asia, Africa, the Sandwich Islands and many tropical countries. It is met in Louisiana, California and a few other States. The frightful character of the disease makes it especially to be dreaded. Leprosy is not contagious unless virus enters into an abrasion. Its cause is not absolutely known, but it may possibly be accounted for by the fact that it is most prevalent where the poor subsist

largely upon fish, which may be consumed as "left over" stock after failure to sell.

Symptoms.—These vary in different cases. There may be small tumors over the skin, or reddish brown spots changing to white. Tubercles may appear upon the nose, ears, forehead and other places and undergo ulceration. Loss of sensation is common and decay of bones not infrequent—the ends of the toes and fingers sometimes dropping off from destruction.

Treatment.—An ounce of prevention is worth a pound of cure. Isolation of cases as they occur is most desirable. Many agents have been lauded as leprosy specifics, but none have proven to be such. Death of lepers usually comes in the form of marasmus or exhaustion. Nourishing diet, most nutritious food, an abundance of fresh air in a bracing atmosphere and tonics to aid intestinal digestion seem essential.

Leucorrhœa.—See section on Diseases of Women.

LEUKAEMIA.

Increase of White Blood-Corpuscles.

This difficulty is most common among men in active life who live in poor quarters and have insufficient or improper food; though it may be caused by diseases of the spleen or bones or other exhausting conditions.

Symptoms.—Paleness and increasing weakness are early signs. The pulse is small and frequent, night sweats are common, the breathing is interfered with and dropsical conditions of the skin are frequent. The glands of the neck, groins and arm-pits become enlarged, and the spleen increases in size and may be extremely tender upon pressure. Hearing and eyesight may become impaired. Sometimes the mouth and throat become inflamed, accompanied by thirst and loss of appetite.

Treatment.—The disease is usually fatal; but life may be prolonged by nutritious diet and hygienic measures. A capsule containing one grain each of sulphate of hydrastia, tartrate of iron and potassa and capsicum, given after each meal, will greatly aid intestinal digestion; a most desired factor.

Pseudo-Leukaemia.—See Hodgkin's Disease.

LICE.

Pediculosis.

There are three kinds of these parasites which live upon the human body; they are called (1) head lice, or pediculosis capitis; (2) body lice, or pediculosis corporis; (3) crab lice, or pediculosis pubis. Their names describe their haunts, the crab lice dwelling in the hairs about the genital organs. Filth favors lice, so that cleanliness is of first importance. The most efficacious agent for destroying these parasites when they come in the hair is frequent saturations of the hair with kerosene oil. Vinegar will soften out the nits, all may then be removed by means of a fine-tooth comb. Body lice or "gray-backs" can be exterminated by boiling the clothing or subjecting it to a very high heat and having the unwelcome intruders picked off of the body. Childrens' heads if neglected are apt to become so infested with nits as to destroy the hair and compel its being removed. The diluted tincture of staphisagria is often employed effectively. Ointments recommended for the removal of lice usually contain corrosive sublimate, and while they produce the desired effect, they are otherwise dangerous and should not be used.

LICHEN.

Skin Papules.

This is a skin disease characterized by irritating eruptions. Simple forms consist of reddened papules on the back of the neck or other parts of the body,

lasting four or five days and disappearing by scaling off, often accompanied by slight fever and general disturbance. Sometimes the papules may become enlarged and coalesce, having a purple or livid appearance, and extend over the body from the extremities, causing great itching, and appearing and disappearing for several months, proving very annoying and often weakening.

Occasionally lichen manifests itself in a more severe form; the skin about the joints and the nails thickens as they are surrounded by the papules, which run together and become filled with thick fluid, mingled with blood. Whenever scrofula is apparent the difficulty is aggravated.

Treatment.—The compound syrup of rumex (see formulas) must be given internally. Frequent baths in borax water must be taken, and a light diet and general hygienic measures enforced. Locally there should be applied a lotion of sulphur, one-half ounce, thoroughly shaken with seven ounces of glycerine.

LIVER—ABSCCESS.

Suppurative Hepatitis.

In nearly all cases, abscess of the liver is preceded by inflammation or congestion of that organ. There may be one or several points of ulceration, and they may discharge outwardly, or through the stomach, bowels or lungs, penetrating the diaphragm. The last method of discharge is most favorable, though it may last for many months, resembling consumption.

Discharge into the abdominal cavity is usually fatal in a few days.

Symptoms.—These may not be marked, but usually there will be frequent chills followed by fever, sharp pain and disturbed sensations in the region of the liver, bowels, stomach and right shoulder; there may be diarrhœa or dysentery and great debility; the patient may lie in bed for weeks or months.

Treatment.—No medication will thwart an abscess of the liver. The strength must be maintained by careful diet; blood poisoning guarded against by small doses of myrrh along with treatment for mild cases of congestion. Operation may be necessary, though when there is a tendency to outward opening it should be favored by poultices. Convalescence may extend over many months.

LIVER—CIRRHOSIS.

Hob-Nail Liver.

Excessive use of alcohol is the most frequent cause of this condition, though it may be a sequence of syphilis, consumption, malaria, etc. It is the result of chronic inflammation of the connective tissue of the entire organ. It is slow in developing and gives rise to various functional disturbances.

Symptoms.—Indigestion, heartburn, belchings, coated tongue, constipation and occasional vomiting are prominent signs. The liver gradually diminishes in size and the skin becomes first pale and then decidedly sallow, dry and harsh. Strength and flesh are lost rapidly, the abdomen becomes distended and dropsy is apparent. Difficulty of breathing and palpitation and hemorrhages from the bowels occur in advanced cases.

Treatment.—Tea, coffee, alcohol and spices must be forbidden. The bowels should be kept open with liver pills. Hot fomentations as advised for inflammation of the liver should be applied when there is pain. Hyposulphite of soda will relieve the nausea and vomiting, and compound gentian syrup will be a suitable tonic. Diet must be very light and bathing frequent, and abundance of fresh air allowed.

LIVER—CONGESTIVE.

Torpid Liver.

This form of liver trouble is extremely frequent and may be provoked by a variety of causes, among which

may be mentioned, excessive eating, associated with indolence; subjection to the unusual heat of a tropical climate, malaria, exposure to dampness and cold, and diseases of the heart and lungs.

Symptoms.—Enlargement of the liver, which may be distinctly felt, is a prominent symptom; sallowness of the complexion, a furred tongue, loss of appetite, dizziness, frontal headache, constipation with occasional attacks of bilious diarrhœa, accompanied by bitter taste in the mouth, nausea and possibly vomiting are all characteristic of congestion of the liver.

Severe and persistent cases may show jaundice, and occasionally dropsy. Melancholy and hypochondria are common. The skin may become dry and harsh and the urine scanty. Occasionally there will be pain under the shoulder blades, and not infrequently a "liver cough" of a hacking character may prove very annoying. There is general lassitude and indisposition to mental or physical exertion.

Treatment.—The use of tea and coffee and of alcoholic liquors must be forbidden, and fatty meats and rich condiments are not to be allowed. Whole wheat bread is best and a generous diet of vegetables and fruits, prunes, figs and oranges are especially desirable. Exercise in the open air must be taken with regularity, and also baths with rubbings. Liver pills will relieve obstinate constipation.

The following will be found a most valuable preparation for this difficulty: Fluid extracts of wahoo, cascara and butternut, each one-half ounce; tincture of capsicum, one drachm, in simple syrup for eight ounces. Dose, one teaspoonful after each meal.

The compound gentian syrup (see formulas) is useful when the difficulty is of malarial origin or accompanied by intermittent attacks. Sulpho-saline waters are most valuable aids to treatment; and vapor or Turkish baths are of especial value. An over-loaded stomach with a foul tongue calls for a stimulating emetic.

LIVER—FATTY INFILTRATION.

Fatty Degeneration.

The most common cause of fatty liver is over-indulgence in alcohol or fatty foods, or such as contain excessive quantities of starch or sugar by persons of indolent natures inclined to obesity. But the condition may arise in connection with consumption or other wasting diseases, or heart or lung troubles which prevent proper blood aeration. There are seldom any marked symptoms, though disturbances of digestion are common, and diarrhœa of clay-colored stools and nausea and vomiting. The liver may be distinctly felt to be enlarged. Unless occurring as an accompaniment of serious disease, waxy liver is seldom fatal.

Treatment depends upon the cause. Those persons who indulge freely in sugars, starchy foods, fats and alcoholic drinks must abandon such things, as well as tea and coffee. Saccharine, in very small quantities, is used as a substitute for sugar by many. The following has been found most excellent: Fluid extracts of poke berries and cascara, each one ounce; saccharine, twenty grains. Dose, ten drops in water night and morning. Frequent bathing and out-door exercise are imperative.

LIVER—HYDATID.

Echinococcus Tumor.

This is a frightfully distressing malady, fortunately rare in this country, though not infrequent in the far north. It is developed by embryos of the tape-worm of the dog (*tænia echinococcus*). The eggs of this tape-worm may enter the stomach and bowels of human beings and the embryos bore through the walls, establishing themselves in the liver. The cyst develops variously, and more than one may be present. The form known as multilocular may reach an enormous size, possibly eight inches in diameter.

Symptoms.—There may be no marked signs of liver disturbance beyond enlargement, and this may be enormous, perhaps pressing upon the lungs and threatening suffocation, in which case relief may be obtained by the aspirating needle. Occasionally cysts burst and are discharged through the lungs or otherwise. The multilocular form usually suppurates and terminates fatally.

Treatment.—Little can be done in the way of treatment beyond sustaining the general strength and directing medication to alleviate symptoms. Children often run great risk of acquiring this frightful malady by their companionship with dogs; possibly drinking after a pet animal or eating food it has licked, or allowing it to lick the lips, the egg of the echinococcus being thus conveyed to the stomach.

LIVER INFLAMMATION.

Hepatitis.

Intemperate persons and excessive eaters, especially those living in warm climates and leading indolent lives, are most subject to inflammation of the liver, though it may be the result of malaria, following congestion of the liver, or of injuries in the region of the organ.

Symptoms.—These may include impairment of appetite, constipation and attacks of bilious diarrhœa; tenderness and pain in the region of the liver, sometimes pleurisy pains in the chest, nausea or vomiting, and white fur on the tongue. Attacks of this character may be frequent and ushered in by chilliness and fever. Chronic congestion is likely to follow, and possibly abscess from improprieties.

Treatment.—Unload the bowels by Seltzer Aperient or senna and salts. If fever is present give infusion of pleurisy root and boneset. Over the region of the liver apply a warm fomentation of mullein leaves, sprinkled over with pulverized wahoo and ginger. If

the stomach is foul administer a stimulating emetic (see Emetics). Keep the feet warm by frequently bathing them in hot water and vinegar and applying hot bricks. Acid drinks are usually acceptable and may be freely used. After-treatment must be as laid down for congestion of the liver.

LIVER—LARDACEOUS.

Waxy Degeneration of the Liver.

This condition is always dependent upon previous disease, such as syphilis, ulceration, or wasting diseases. The liver becomes increased in size and its structure very dense. Some of the symptoms are great paleness, diarrhœa, vomiting and indigestion and progressive debility. The liver may be distinctly felt as enlarged, and the spleen is usually also enlarged, often causing disagreeable sensations of fullness. Dropsy is most common, but jaundice is absent. Treatment must be such as will be favorable to the disease of which waxy liver is secondary. The treatment laid down for Anæmia will usually be found to be required.

LIVER—WANDERING OR FLOATING.

Falling Liver.

The liver is held in its position by ligamentous attachments, which, under certain conditions, become elongated and allow the liver to fall low down in the abdominal cavity. Women of lax tissues who have passed through frequent pregnancies are the persons most liable to such a condition. Treatment consists in proper bandages to keep the organ approximately in position, and the administration of astringent tonics.

LIVER—YELLOW ATROPHY.

Atrophia Flava.

This is a rare difficulty, and is a rapid breaking down of the liver cells by fatty degeneration and con-

sequent diminution in size of the liver itself. Pregnancy and emotional or alcoholic excesses are most frequent causes.

Symptoms.—During the first few days, or possibly weeks, there is considerable disturbance and irritation of the stomach and bowels, accompanied by jaundice. Then nervous symptoms such as violent delirium, convulsions and stupor. The tongue and teeth become covered with dark “sordes,” the bowels are inactive and the urine very scanty. Dark material may be vomited and hemorrhages from the nose and other parts of the body are common. Temperature may fall below normal. Breathing is irregular, and the heart’s action greatly enfeebled. The pronounced symptoms rarely last over a week before death relieves the suffering.

Treatment is of little avail beyond relieving symptoms as they occur. The bowels should be kept open by the use of liver pills, and the nervous system sustained by frequent enemata of scullcap infusion, to which tincture of myrrh may be added for its antiseptic action.

LOCKJAW.

Tetanus. Trismus.

This is a frightful condition, characterized by painful and rigid contractions of various muscles of the body, including those of the jaws. The cause is almost universally an injury.

Symptoms.—These are stiffness of the neck and at the back of the head, followed by painful spasm of the neck and muscles of the jaw, the mouth being firmly closed and swallowing painful. Breathing may become difficult, the muscles of the chest and diaphragm becoming involved. The abdominal muscles may likewise contract, becoming hard and tense; the limbs may be stiffened and every muscle of the body undergo contraction upon the slightest excitement.

The contractions come on spasmodically and are extremely painful, often causing hideous contortions of the face and body. These spasms are excited by merely touching the patient, walking across the room, slamming the door, loud talking or other disturbances.

The suffering of lockjaw is intense, bringing about great exhaustion from loss of sleep, agony, anxiety and lack of nourishment. Death usually occurs within twelve days; though with proper treatment recovery may slowly follow, and may be hoped for should the patient survive two weeks after the symptoms commence.

Treatment.—Usually the wound will be found in a bad condition and will need arousing by poultices of flax-seed, covered with powdered myrrh and golden seal, and the adjacent tissues bathed with compound tincture of myrrh. Medication must be given by the bowels, and must be most vigorous.

The following should be given every two hours with unfailing regularity: Lobelia herb and scullcap, each one teaspoonful, in half a pint of boiling starch water; steep, strain and inject into the rectum luke-warm, and have retained as long as possible. Malted milk or other nourishing liquid preparations may be placed between the clenched teeth and the cheeks, in teaspoonful doses, and will usually find its way down the throat.

Liquid foods may be given by enema between the injections of the remedies mentioned. Perfect quietude must be secured, and an abundance of fresh air. Bathing would be beneficial were it not for the provocation of spasms, the avoidance of all exciting causes of which must be studied. Opium, chloral, brandy and similar agents are positively harmful. When lockjaw is confined to the muscles of the jaw it is termed *trismus*; when it involves the muscles of the whole body it is known as *tetanus*.

Locomotor Ataxy.—See article on Ataxy.

Long Sight.—*Hypermetropia.*—A flattened or shortened condition of the eye-ball, which makes it possible to clearly see objects from a distance, while near objects appear blurred. It is fully considered in the section on Diseases of the Eye and Ear.

Lumbago.—*Crick in the Back.*—See article on Rheumatism—Muscular.

LUNG CIRRHOSIS.

Chronic or Interstitial Pneumonia.

This is a contracted or hardened condition of the lungs, the air vessels being partially obliterated and the bronchial tubes dilated. It may follow pneumonia, bronchial dilatation, continued inhalations of mineral dust or other irritating substances, or it may arise during tuberculosis and prove sufficient to stop further advance of that disease and result in a cure.

Symptoms.—At first no marked signs of cirrhosis will be noticed, but after the disease has advanced, prominent symptoms may be recognized. There will be irritable cough, usually of a spasmodic character, causing great effort and accompanied by the expectoration of stringy mucus. Shortness of breath, and dragging sensations and considerable pain in the sides will be experienced. Strength and flesh will gradually be lost, and there may be night sweats and pronounced anæmia. Persons suffering with tuberculosis will experience relief and progressive improvement when induration or hardening of the lung becomes established.

Treatment.—Fresh air, sunshine, cheerfulness, an equable temperature and all the surroundings necessary for consumptives, as well as the diet advised for them, will be beneficial. Cough must be treated as directed for bronchiectasis (bronchial dilatation). Exertion must never be violent, as shortness of breath of a very annoying character is likely to follow.

LUNG COLLAPSE.

Uninflated Lung. Atelectasis.

This is a condition of absence of air in the lungs and may occur during the course of certain diseases at any age, although it is usually met with in new-born infants or children under two years of age. In the latter cases congenital conditions or obstructions of the air passages prevent air getting into the lungs at certain parts. When atelectasis occurs during wasting disease, as typhoid fever, marasmus, chronic diarrhoea, etc., it is due to loss of muscular power, or to long-continued lying on the back, preventing lung expansion, or to diminished power of the nerves controlling expansion.

Symptoms.—The signs of lung collapse in new-born infants is given in the section on Maternity. In the course of disease the existence of atelectasis may be known by the apparent insufficiency of breathing and the physical signs indicating absence of air in the lungs.

Treatment.—In wasting diseases collapse may be guarded against by frequent changing of position and general observance of the rules of good nursing. A few drops of Lippia Mexicana or of Greek Valerian in water may be taken as an expectorant. The treatment of new-born children is given in the section on Maternity.

LUNG CONGESTION.

Pulmonary Hyperaemia.

This is a crowding of blood upon the lungs. It may occur in the course of heart troubles, or it may be occasioned by irritating substances breathed into the lungs, or it may be a sequence of other difficulties, which crowd the vessels and force blood into the lungs. Usually it is the first stage of inflammatory lung troubles.

Symptoms.—As a rule the direct symptoms are difficult to distinguish, as they are usually those of intensified existing symptoms. Difficult breathing and a sense of constriction across the chest are most reliable signs.

Treatment.—Hot applications across the chest, bathing the feet in hot water and the use of infusion of pleurisy root, and lady slipper infusion to promote outward circulation will be found beneficial in acute cases.

Lung Emphysema.—*Dilatation of the Air Vesicles.*—See article on Emphysema.

LUNG FEVER.

Pneumonia. Inflammation of the Lungs.

This is a highly dangerous condition, sometimes known as pneumonitis, pleuro-pneumonia, inflammation of the lungs or congestion of the lungs. It is the result of exposure to cold and consequent complete chilling of the surface, driving the blood inward upon the lungs, causing an excess of blood in the tissues of those organs, some of the blood exuding through the walls of the air-cells, thus filling them and causing exclusion of air from them.

Equalizing the circulation may result in having this excess of blood in the lungs carried around in the general circulation. If not thus remedied, the blood contained in the air cells may undergo decomposition and become gangrenous, and thus cause death, or interference with proper aeration of the blood or exhaustion of the heart may prove fatal.

The most frequent method of contracting pneumonia is exposure to cold and dampness for a great length of time and then suddenly coming into a hot and dry room. Children often suffer pneumonia from having the lower limbs exposed, especially during changeable weather. While the young, old and feeble are its most frequent victims, still the heartiest and most ro-

bust men may succumb in a few days. Men of large chest expansion and of florid complexion, disposed to fleshiness, are very susceptible.

Symptoms.—In nearly all cases there are premonitory signs, which, if heeded, give sufficient warning to allow the attack to be averted by proper and prompt treatment. There will be chilliness and creepy sensations along with slight feverishness. The least draft of air “cuts like a razor” and there is inability to get warm in any way. At night there will be achings through the joints, and hacking cough, which usually subsides by morning, leaving a slight indisposition attributed to “cold.”

At this stage, if steps are promptly taken, pneumonia may be averted; if not, the more serious symptoms will set in as follows: Sudden and prolonged chill, followed by painful breathing, headache and vomiting and possibly convulsions in children, and fever soon follows. There are sharp, lancinating pains in the region of the nipple, greatly aggravated by coughing. Breathing is very short and shallow; in adults it soon reaches to thirty per minute, and in children forty-five or fifty. The temperature increases and may reach 102° or even 106° in a couple of days. The pulse is usually full and strong at first, and may be about 100 in an adult and much higher in children. A dry cough is persistent. There is great restlessness and sleeplessness, and possibly delirium or convulsions in children. The appetite is lost early, the tongue becomes coated, white and dry, and there is constipation.

In three or four days the cough apparently loosens and there is expectoration of tenacious and glary mucus, often streaked with blood. Breathing becomes difficult. The ribs are usually fixed while the muscles labor to perform respiration. The face becomes dusky in appearance and the whole surface of the body very hot. The patient prefers to lie on the back and becomes exceedingly restless. The chest, when sounded by striking with the fingers, gives a solid sound, and placing the ear against the chest the obstructions to breathing may be readily recognized. The tongue be-

comes exceedingly dry, and thirst is urgent and persistent.

On the seventh or eighth day a turning point in the disease may be expected. If recovery is likely to follow, the pain abates, breathing grows easier, coughing is looser, a warm moisture is likely to occur, and sleep followed by a sense of relief upon awakening precede rapid improvement.

Unfavorable symptoms commencing about the eighth day will be increase of fever, restlessness and pulse rate and number of respirations per minute, delirium, stupor, dark or dusky countenance and profuse perspiration. Death usually occurs before the seventh day in fatal cases, and may be looked for when expectoration is thin and dark, and the skin dusky or yellow and the extremities cold and blue, while the body is very hot, breathing and pulse very rapid, and delirium or wandering of the mind.

After the eighth day suppuration or abscesses may occur in the lungs, causing expectoration of pus and slow recovery. Possibly gangrene may set in, denoted by very offensive breath, pale and pinched features, great debility and weak and irregular pulse. Such cases very rarely recover.

Old and feeble persons, or those suffering from chronic disease, may have a form of pneumonia known as typhoid pneumonia, which progresses slowly and is marked by great prostration and possibly tenderness of the abdomen and diarrhœa, and the formation of brown crusts over the tongue and teeth and lips.

Treatment.—This must in all cases be prompt and vigorous, and calculated to promote an outward circulation of blood at the same time that it sustains the heart's action. Quietude, good nursing and an equable temperature are of the greatest importance. A temperature of not over 70° should be maintained in the room during the day, and not lower than 66° at night. Fresh air must be provided, although drafts are to be avoided. The air must likewise be moist; keeping a pan of water on the stove just warm enough to evaporate slowly is a good plan, and a few

drops of spirits of turpentine may be occasionally added to the water.

At the commencement of an attack severe symptoms may possibly be averted by early administering, freely and frequently, an infusion of ginger and pleurisy root, and bathing the feet in hot water. When the fever is on, this must be continued and scullcap added to the infusion. Water may be allowed in abundance, but it must not be cold. Stimulating liniment should be rubbed over the chest and flannel cloths wrung out of hot water applied frequently. The bowels should be moved gently by milk of magnesia, or similar mild preparations, and if there is great dryness of the skin warm sponge baths may be given. Milk may be given as food at this time.

After the third day there will be need of sustaining the heart and nervous system. This may be done by adding scullcap to the infusion and also giving every three hours a capsule containing one grain each of capsicum and sulphate of hydrastia. Should the extremities grow cold and the face blue, and the pulse weak and frequent, and the breathing rapid, the infusion should consist of ginger and blue cohosh with a little prickly ash bark, and the capsules continued. Hot cloths wrung from capsicum infusion should be frequently applied to the chest. Rubbing the chest with camphorated oil is of service, and injections of scullcap and goldenseal will be useful in severe cases.

During convalescence the syrup of wild cherry is excellent, and gentian compound for a tonic. Food must be nourishing and light and given frequently in small amounts. Great caution must be exercised against too early exposure.

LUPUS.

Gnawing Ulcer.

This is a destructive growth starting upon the skin and eating into the deeper tissues, resembling the bite of a wolf in appearance, hence its name (*lupus*, meaning wolf). It usually commences upon the face, and in many respects resembles cancer. It first causes a lit-

the hardened lump, underneath which softening progresses, and eventually there is a depression, often amounting to a deep hole, the bottom of which is ashy gray and the edges thickened and angry looking. A case of lupus may slowly develop over a term of years and if neglected may cause great destruction before death ensues.

Treatment.—The wisest thing that can be done is to perform early surgical operation and remove the degenerate structures. The system should be sustained and the treatment advised for scrofula vigorously administered. Externally, oxide of zinc ointment will be found serviceable, the parts being most carefully washed for renewed applications. No specific treatment can be laid down. It will be necessary to enjoin exclusion of tea, coffee, alcohol and highly seasoned foods, and to provide healthful surroundings and exercise in the fresh air.

LYMPHADENITIS.

Inflammation of Lymphatic Glands.

This condition usually arises from absorption of poisonous material from wounds or abscesses. It is recognized by a red streak following the chain of lymphatics, and hardening of the lymphatic cords, the limb being hot, swollen and tender. Usually an attack is ushered in by a chill, followed by rise of bodily temperature to possibly 105°. Unless pyæmia or general blood poisoning should set in lymphadenitis is seldom fatal.

It must be treated by rest and light diet and the outward application of tincture of lobelia. The bowels must be kept open; and when fever occurs it must be treated as laid down under the general remarks upon fever.

Lymphangioma are dilatations of lymphatic ducts or glands, forming tumors. They may be small and very numerous and exert no unfavorable influence upon health.

Lymphoma is the term used to designate a form of tumor involving the lymphatic glands, or the formation of material resembling lymphatic cells. See Tumors.

Mad-dog Bite.—See article on Hydrophobia.

Malarial Fever.—*Malaria.*—A species of fever prevalent in countries poorly drained; undoubtedly caused by miasm of the atmosphere—*malaria* meaning bad air. It is fully considered in the article on Ague.

Malignant Diseases.—Some diseases, among which may be named diphtheria, small-pox, scarlet fever, cancer, etc., assume a malignant form, in which there is a tendency to the breaking down of tissues and blood poisoning. To all such the term *malignant* is applied.

Malignant Pustule.—See article on Charbon.

MARASMUS.

Wasting Disease.

This is a general and gradual wasting away of strength and flesh, which often occurs to children as the result of poor food, unhygienic surroundings and intestinal derangements.

Symptoms.—At first there will be no prominent symptoms, but the child will become listless and then pale and weak and refuse to enter into play, and yet not complain of any disturbance. In time the body becomes thinner and thinner, and resembles that of a consumptive. Weakening diarrhœa is often present, and sometimes a hacking cough and hectic fever.

Treatment.—Fresh air in abundance, in the country, if possible, must be provided. The most nourishing

food must be given, and plenty of it, such as broths or meat jellies, egg-nog. without alcohol, rich milk, malted food preparations, condensed milk, etc. The digestion may be aided by small doses of peptenzyme after meals. A capsule containing tartrate of iron and sulphate of hydrastia, each one-half grain, taken between meals will be a sufficient tonic. Kindness and good nursing are imperative.

Measles.—This is essentially a disease of childhood, characterized by the general symptoms of a bad cold and catarrhal manifestations, with fever of a high grade and an eruption commencing on the face and extending over the body. It is simply managed and is seldom fatal, unless through imprudences. "Catching cold" during measles may cause very dangerous symptoms and sudden death, or may absorb the disease and lay the foundation for serious difficulties in after life. It is fully considered in the article on Measles, to be found under the title of Fever—Eruptive.

Medinensis.—This is another name for *Filaria*: fully described in the article on Guinea Worm Disease.

Melancholia.—A mental difficulty, caused by grief and anxiety and aggravated by liver troubles or diseases peculiar to women. A severe form of melancholia is classed as insanity, and is fully considered in the article on Insanity.

Melanoderma is the term applied to darkened conditions of the skin, or parts of it, during pregnancy or other special conditions of the body. Intemperate persons often present such characteristics.

MELANOSIS.

Deposits of Dark Pigment.

This a condition which may arise in the course of diseases involving degeneration of tissues, such as

certain forms of cancer, Addison's disease, etc. Its characteristic is the discoloration of the skin by deposits of pigment material. This discoloration may be dark brown or black, and may be very extensive; sometimes the whole body turns black and the person is regarded as "changing to a negro." Treatment must be according to the nature of the disease—usually cancer.

Membranous Croup.—This dangerous disease is essentially confined to childhood. It is fully considered in the article on Croup—True.

Meningitis.—*Spotted Fever.*—See article on Fever—Cerebro-Spinal.

MENINGITIS—TUBERCULAR.

Miliary Tuberculosis of the Brain.

This is a deposit of minute tubercles (miliary) in the membranes of the brain. It rarely occurs in adult life, and is most common between the ages of two and seven years, and the adults attacked are usually between twenty and thirty. Predisposition from hereditary tendencies, unhygienic surroundings and improper food and clothing, and cigarette smoking in adults, may be named as causes of the difficulty.

Symptoms.—While the tubercles are forming there may be no pronounced symptoms, though bad dreams, restlessness and irritability with irregularity of the bowels may be noticed. Soon characteristic signs appear, such as headache, hectic fever, constipation, vomiting, stiff neck, head thrown back, abdomen drawn in, possible convulsions and evidence of pain in the head. This condition may last from two to four days, when symptoms of depression will be manifested, such as slow and irregular pulse, lowered temperature, tossing of the head, and drowsiness, rolling of the eyeballs, a pitiful, moaning cry, frequent convulsions,

irregularity of breathing, alternate coldness and slight feverishness, great weakness and emaciation.

Paralysis may set in, also stupor, and, just before death, profuse cold perspiration and loss of sensibility. The victim of tubercular meningitis is a pitiable object and a frightful sufferer. Death usually occurs within three weeks, during a convulsion or spell of smothering or choking. Some cases are prolonged a month, or even longer. Recovery is extremely rare, and death must be expected.

Treatment.—This must be in accordance with the symptoms, though opiates must not be employed. Injections of lobelia and lady slipper to the bowels are most soothing. The application to the head of cloths wrung out of cold water are very grateful. Diet must be extremely nourishing. Gelatin, egg-nog, without alcohol, malted milk, or other similar food preparations are usually relished. Absolute quiet is imperative, and fresh air and cleanliness must be provided. Everything conceivable should be done to alleviate the suffering and quiet the irritability of the patient.

MENINGOCELE.

Protrusion of the Brain.

Sometimes children are born with imperfect development of the skull, allowing a protrusion or hernia of the membranes of the brain, termed meningocele. When a portion of the brain itself protrudes it is called encephalocele. Such tumors are readily recognized and their treatment consists in applying a pad of soft cotton, wet with extract of witch hazel or other mild astringents, and held in place by secure bandage. Perfect recovery can hardly be expected.

Menorrhagia.—*Flooding.*—An excessive flow at the menstrual period. See section on Diseases of Women.

Menstrual Disorders.—These are fully considered in the section on Diseases of Women.

Mentagra.—*Barbers' Itch.*—See the article on Barbers' Itch.

Metritis.—Inflammation of the substance of the womb.

Metrorrhagia.—This is hemorrhage from the womb. It is fully considered in the section on Diseases of Women.

MILIARIA.

Sweat Blisters.

This is the formation upon the skin, principally over the abdomen, of very minute blisters containing sweat, and may occur during the course of an acute disease accompanied by profuse perspiration. The bursting of the blisters may cause irritating and smarting sensations, in which case, bathing the parts with soda water will give relief. Special treatment is unnecessary.

Migraine.—See article on Headache.

Milk Crust.—See article on Eczema.

MILK FEVER.

Third Day Fever of Confinement.

The flow of milk in the breasts of women in confinement does not naturally commence until the third day after delivery. Its establishment is frequently characterized by "milk fever." This is ushered in by distinct chilliness and nervous sensations, often causing the belief that child-bed fever is threatened; soon the temperature begins to rise and there may be considerable flushing of the face. The breasts become pale and filled, and withdrawing the milk gives relief.

Treatment.—Small doses of infusion of camomile and lady slipper will be found sufficient medication. Feeble persons, and those who take insufficient nourishment after delivery are the most frequent sufferers from milk fever. The difficulty is transient, and should not be considered as important as was formerly supposed. Many women are not troubled by it.

Milk Leg.—*Phlegmasia Dolens.*—A condition liable to occur to weak women during confinement. See section on Diseases of Women.

MILK SICKNESS.

Poison from Improper Milk.

In some sections of the country, the milk of cows frequently becomes poisonous presumably on account of poisonous plants being eaten. Such milk renders butter and cheese also harmful, though very rarely produces fatal results.

Symptoms.—As a rule, before the full attack manifests itself, there will be feelings of debility, loss of appetite, etc., followed by retching and vomiting, headache, intense thirst, constipation and very offensive breath, and sometimes high fever.

Treatment.—If the attack comes on suddenly, first give an emetic, and in all cases administer an infusion of senna leaves containing a dose of Rochelle salts, and repeat each evening.

Monomania.—A condition of the brain which causes a person to dwell constantly and peculiarly upon one class of thoughts. See the article on Insanity.

Morbilli.—*Measles.*—See article on Fevers (eruptive)—Measles.

MOLLUSCUM CONTAGIOSUM.

Inflammation of the Sebaceous Glands.

This is an affection of the sebaceous glands of the skin, contagious in character, thought to be caused by a parasite, and occurring most frequently among children.

Symptoms.—It commences as a hard, white swelling, very small and glistening; and increases to the size of a pea, or possibly larger. It may have a sort of neck and the top of it be flattened, in the center of which will be found a small opening of a sebaceous gland. Squeezing the tumor will cause a milky fluid to exude. After the tumor has been evacuated it shrivels into a wart or horny process. Molluscum may occur upon any part of the body, but most frequently on the face, breasts, arms and limbs. It may appear singly or in groups.

Treatment.—This is simple, and consists in lancing the tumor across its face, evacuating the contents, and applying some healing lotion or salve, such as witch hazel ointment. They are readily recognized and seldom reappear.

Morbus Coxae.—See article on Hip Disease.

MORPHOEA.

Skin Stains.

This is a rare disease of the skin, characterized by the appearance of yellowish, lilac or violet spots, two or more inches in diameter, on various parts of the body. They burn and tingle and cause rigidity of the skin, interfering with muscular action, especially if they are situated near joints or over muscles frequently used. They may last for years and then gradually disappear. Usually they leave scars and shrunken spots. Local treatment is useless. The compound syrup of gentian (see formulas) is indicative of the best tonic treatment.

Motes.—*Muscoe Volitantes.*—These are dark specks floating before the eyes. They usually indicate disturbances of the nervous system or irritations of the brain, and are not to be regarded as denoting serious trouble.

Mouth Diseases.—The mouth is liable to suffer various troubles, mostly diseases of the mucous membrane. These are mentioned in the articles on Canker of the Mouth, Thrush or Sprue and Nursing Sore Mouth.

MUMPS.

Inflammation of Parotid Gland. Parotitis.

This is essentially a disease of childhood, although adults are sometimes affected. It is an inflammation of the parotid gland, at the angle of the jaw, which may extend to other glands, and may be upon one or both sides.

Symptoms.—These usually commence two or three weeks after exposure, the disease being infectious, and are slight fever, coated tongue, disturbances of digestion and irregularity of the bowels. There is stiffness of the jaw and some difficulty of swallowing. Acids in the mouth cause considerable pain.

Swelling soon commences at the angle of the jaw, usually the left one first, and extends until the whole side of the face protrudes. The swelling is elastic, though somewhat hard toward the center. There is tenderness upon pressure and occasionally redness. The duration of the swelling is usually about a week. Talking, yawning and swallowing are difficult, mastication is painful, and occasionally there may be deafness and humming sounds in the ears.

Sometimes, through neglect, such as taking cold or exposure to inclement weather, abscess of the gland occurs. More frequently the mumps are "translated," or as it is commonly expressed "go down." Females thus may have the breasts or ovaries enlarged, and males may have the testicles enlarge to great size. In

very rare cases the brain becomes involved, causing great danger. But almost universally mumps result in recovery.

Treatment.—Provide light diet and move the bowels gently. Keep indoors unless the weather is warm; avoid draughts. Tie a handkerchief loosely over the swollen parts after bathing them with a liniment of equal parts of fluid extract of verbascum and lobelia. Should they be translated, warm baths morning and night, with thorough rubbing, and frequent drinking of ginger tea, or other diffusive, will be sufficient. Delicate children may be nervous for some time after an attack of mumps and may require frequent and small doses of infusion of scullcap.

Muscular Rheumatism.—*Lumbago.*—See the article on Rheumatism.

Myalgia.—See article on Rheumatism—Muscular.

Mydriasis.—See section on Eye Diseases.

Myocarditis.—See article on Heart Diseases.

Myodynia.—*Lumbago.*—Another name for Muscular Rheumatism (which see).

Myoma.—Theoretically this is a form of tumor consisting of muscular cells, associated with fibrous tumors.

Myopia.—*Short Sightedness.*—See section on Diseases of the Eye.

Myosis.—See section on Eye Diseases.

Mysophobia.—A morbid fear of becoming contaminated by contact or association with diseased persons.

MYXOEDEMA.

False Dropsy.

Women who have reached middle life are occasionally subject to peculiar deposits of mucus-like substances in the skin without apparent cause. There will be puffiness of the eyelids, swellings of the fingers and toes, lips and nostrils, and possibly of the arms and limbs very closely resembling dropsy, although not leaving indentations on pressure, and lacking the doughy feeling of dropsy.

Usually there is redness and fullness of the capillaries over the cheek bones. Along with these physical signs will be progressive mental debility. The memory fails, and hearing and vision are disturbed, hallucinations are common, insomnia becomes pronounced and insanity may result, accompanied by great physical weakness.

Treatment.—This has proven of little avail. A nourishing diet, hygienic surroundings and a change of habits and climate are most advantageous. The compound syrup of *Mitchella* (see formulas) will be found useful as a general tonic.

NAEVI.

Vascular Tumors.

These are tumors which are made up almost entirely of minute blood vessels or capillaries. They are usually congenital or develop in early childhood. They are soft and compressible and of small size, usually of wine color (hence the name "port-wine mark" applied to some of them). They mostly occur on the scalp or tongue, and between muscles. They seldom develop after birth, but should they do so they may attain sufficient size to interfere with the performance of functions. Removal by surgical operation is the only effectual means of treatment.

NAILS.

Diseases.

Ingrowing Toe-Nail.—By pressure from tight shoes or by not cutting the toe nails squarely, the flesh at the sides of the toe-nails (especially the big toes) may overgrow the nail and become extremely sensitive. Rest is imperative in bad cases, though usually a broad slipper will afford sufficient relief from pressure. Do not cut the nail, as often recommended, but insert between the edge of the nail and the overgrowing flesh, a small piece of cotton saturated with witch hazel ointment. Poultices of flaxseed covered with goldenseal and powdered lobelia herb may be necessary in severe cases. Occasionally the nail must be removed.

Onychia.—Scrofulous persons or those in bad health may suffer from ulceration about the roots of the nails, causing foul discharges and intense pain, and blackening and peeling off of the nail. Injuries may produce similar conditions. Treatment necessitates removal of the nail and carrying the hand in a sling. Internally, tonics will be required. Locally, the Black Salve (see formulas) is the most beneficial application.

Psoriasis is a thickening of the central portion of the nail and consequent peeling off in layers; the skin at the bottom of the nail is loose and ragged, and the whole nail is roughened. Usually the blood will be found disordered, requiring compound syrup of rumex or similar alternative. Locally, witch hazel salve should be applied.

Nasal Polypus.—Tumors, soft or hard, may develop in the nasal passage and develop to considerable size, causing great annoyance and interfering with respiration. They are fully considered in the article on Polypus.

Neck Injuries.—See the article on Sprains and the section on Dislocations and Fractures.

Necrosis.—See article on Bone Diseases.

Nephritis.—*Inflammation of the Kidneys.*—See the article on Kidney Diseases.

NERVE INJURIES.

Traumatic Neurosis.

Injuries to the nerves, especially to the spinal cord, brought about by falls, blows, railroad accidents and various other means, often give severe nervous symptoms, besides the general class of symptoms known as shock, described elsewhere. There may be headache, sleeplessness, failing eyesight, rumbling sounds in the ears, progressive debility, heart irregularities and perhaps mental hallucinations or uncontrollable imaginations. These symptoms may develop long after all supposed effects of the injury have disappeared. Treatment consists in perfect rest and light diet, massage and frequent cold water packs along the spine. The nerve tonic (see formulas) should be used twice daily.

Nervous Debility.—See special article in the section on Diseases of the Generative Organs.

Nervous Prostration.—See article on Prostration of the Nervous System.

Nettle Rash.—*Urticaria.*—See article on Hives.

NEURALGIA.

Paroxysmal Pain from Nerve Irritations.

This may be described as acute paroxysms of intense pain confined to some special region of the body, and should be considered according to the part affected.

Tic douloureux or trigeminal neuralgia, also known as facial neuralgia, usually involves but one

side of the face, and most commonly the pain is felt over the eyebrow or through the temple or cheek. Paroxysms may last but a few seconds at a time, but be very intense in character and cause twitchings of the muscles of the region involved. Attacks are frequently preceded by tingling sensations and sometimes by chills and perspirations (known as brow-ague). Excitement, or fatigue, or drafts of air, or exposure to heat, cold or dampness, or decayed teeth may be exciting causes of neuralgia. Usually there will be found back of the trouble some derangement of the system or functional trouble. In this connection may be mentioned stomach or liver troubles, menstrual difficulties, malaria, improper food or clothing, and unhygienic surroundings and bad habits.

Treatment.—The removal of the predisposing cause is of first importance and medication must be directed accordingly. The exciting causes must be avoided—an equable temperature being desirable, and drafts, exposures and dampness must be guarded against. The wearing of woolen underclothes, varying in weight according to the season, is advisable. Farinaceous foods, fruits and vegetables are the best foods. Tea, coffee and alcoholic drinks are injurious.

During an attack rub over the parts freely stimulating liniment, and then apply to the temple a hot fomentation of mullein leaves and lobelia herb and keep in place by a flannel bandage. Local applications of laudanum or other opium preparations will give temporary relief, but they should not be employed as they do permanent harm.

Internally administer an infusion of lady slipper, scullcap and black cohosh in teaspoonful doses every hour. Bathe the feet in hot water containing vinegar and capsicum. If there is any malarial tendency a few drops of fluid extract of gentian should be given in water every three hours. Keep the bowels open with liver pills, and correct acidity of the stomach by neutralizing cordial.

Intercostal Neuralgia is characterized by paroxysms of pain in the region of the chest, and may ex-

tend from the collar bone to the hips, usually on the left side, and often the slightest movement may cause severe pain. Its causes may be the same as those designated under facial neuralgia, though it is frequently associated with lung troubles. Treatment is similar to that for facial neuralgia.

Neuralgia of the Breasts.—*Mastodynia*.—This is common among young women, and often gives rise to great anxiety least cancer is forming. Sometimes it is associated with menstrual disorders or too long nursing. Besides the treatment given for facial neuralgia, mustard plasters are especially favorable in this connection.

Occipital Neuralgia involves the back of the neck and may extend to the top of the head.

Sciatic Neuralgia is a very common trouble. It is described and treated under *Sciatica*.

Spermatic Neuralgia is characterized by agonizing pain in the testicles and along the spermatic nerve. It is usually caused by sexual excesses.

In all forms of neuralgia the application of electricity affords relief, and its persistent use often results in permanent recovery.

NIGHT TERRORS.

Bad Dreams. Night-Mare.

All persons are subject to night-mare after eating improperly at the evening meal, the distended stomach pressing upon the plexus of nerves and causing the sympathetic disturbance. In such cases an ounce of prevention is worth a pound of cure.

Children are sometimes troubled by night terrors without apparent cause. A little child may cry out in terror during the night and appear slightly delirious, apparently imagining the presence of harmful objects

or persons. Parents sometimes become alarmed at such demonstrations; but unless they are allowed to continue constantly they are of little consequence.

Gently lift the child from bed, and in soothing words quiet its fears. Passing the hand gently over the forehead or placing a damp cloth on the head will usually cause the child to fully awaken. As a rule there can be traced disturbances of the bowels or stomach as the origin of night terrors.

NIPPLE TROUBLES.

Cracked and Sore Nipples.

Nursing women often have their nipples become extremely tender, or even cracked, bleeding or excoriated. Too frequent nursing, or possibly disease of the mucous membrane of the child's mouth, may cause the trouble.

Treatment is often difficult unless the child can be refused nurse, which is often inadvisable. The simplest application is an infusion of strong boiled tea containing borax. Witch hazel salve is excellent, or an ointment may be made by thoroughly incorporating a drachm of tannic acid in an ounce of vaseline. The nipples should be thoroughly cleansed of all such preparations before nursing and wiped very dry after the child has finished.

NIPPLE TROUBLES.

Depressed and Retracted.

Frequently women have their nipples depressed or on a level with the breasts, which becomes a matter of concern at confinement. The breast pump should be applied, and after suction is made, be allowed to remain half an hour or more. A common and handy method is to heat glass fruit jars and place one over each breast until cool. When the nipple is flacid an infusion of bayberry bark may be used to advantage.

NIPPLE TROUBLES.

Inflammation.

Sometimes through too strong suction of the child, or through exposure or accumulations of dirt, the nipples may become inflamed and swollen and perhaps suppurate.

For simple cases the application of witch hazel extract will be sufficient. Severe cases may need poultices of flaxseed, and evacuation of pus which is liable to form at the tips of the nipples.

NOMA.

Mucous Ulceration of the Genitals.

Female children occasionally suffer from a low grade of ulceration of the mucous membranes of the genitals. Bad surroundings, filth and improper food, together with irritation, cause it. There will be a low grade of inflammation and the formation of numerous spots of grayish ulceration. Extensive sloughing may occur, and death may possibly result after the system has become greatly debilitated.

Treatment must be vigorous. The providing of most nourishing diet and fresh air and hygienic surroundings must be considered as imperative. Locally, poultices of flaxseed sprinkled with powdered myrrh and golden seal must be frequently applied.

Internally, there should be given frequent drinks of composition infusion, and also small doses of compound syrup of rumex (see formulas). The discharges from the ulcers are poisonous and care must be exercised in dressing and washing the parts. The disease is closely allied to cancrum oris.

Nose Diseases.—The nose is subject to many accidents and diseases. They are fully described in the articles on Acne Rosacea, Cancer, Catarrh (Ozena), Frost Bites, etc.

NYCTALOPIA.

Night Vision.

To some this peculiar condition is known as "owl-sight." It is a disease caused by nervous irritation, characterized by inability to see during the day time and ability to see during the night. Both eyes are affected, and the duration of the peculiar condition is uncertain. Some are born thus and never recover.

Treatment must be based upon soothing the nerves, wearing smoked glasses and slowly accustoming the eyes to stronger light. If there is general weakness, as is common, the system must be built up by tonics and nourishing food and hygienic surroundings. Counter-irritation is frequently made over the temples.

NYMPHOMANIA.

Excessive Sexual Desire.

In very rare instances women become possessed of an almost uncontrollable desire for sexual intercourse. In some cases this becomes a mania and restraint is necessary to prevent indecent attempts to secure gratification. With some this condition is periodical with menstruation. Lack of cleanliness during menstruation, masturbation, enlargement of the clitoris, or its covering, or of the inner labia, and ovarian irritation may be causes.

Treatment.—The mind should be employed so as to turn the thoughts upon other subjects. The diet should be light; coffee, tea and alcoholic liquors should be denied, and fresh air and out-door exercise should be provided. Cold sitz baths are excellent, and occasionally it becomes necessary to remove the prepuce or covering of the clitoris, or even the clitoris itself. Ten-drop doses of fluid extract of scullcap in water three times a day is probably the best agent to physiologically subdue abnormal sexual desire. The trouble is one that can be overcome only by careful and persistent management.

OESOPHAGISMUS.**Spasm of the Gullet.**

Sometimes persons of excitable or nervous temperaments, or those suffering from various forms of nervous diseases, experience great difficulty in swallowing on account of spasm of the gullet (œsophagus). With some this is provoked by drinking too freely or by swallowing too large mouthfuls of either solids or liquids. The sensation is that of choking, and usually subsides in a few minutes; but is desperately annoying while it lasts.

Treatment.—Turning the mind upon other thoughts while eating or drinking will often suffice to overcome the trouble when due wholly to excitability. Persons whose nerves are “unstrung” should use the Nervine Tonic (see formulas); and when œsophagismus is the result of serious nervous disorders it can be cured only as such conditions are remedied. The eating of starchy foods, or of substances which form a mass when mixed with the saliva often causes these choking sensations in the gullet.

Oesophagus Stricture.—As the result of injuries, swallowing poisons, very hot substances, ulceration, cancer and various diseases, the gullet may become contracted by stricture, and interfere with, even if not wholly prevent, swallowing. Starvation may follow such a condition. The careful introduction of a bougie will reveal the true state of affairs. If caused by pressure of tumors or other removable conditions, recovery may be possible. Most cases are fatal, and life may need to be sustained by enemas of food.

Oionomania.—See article on Alcoholism.

Onychia.—See article on Nail Diseases.

Ophthalmia.—This is inflammation of the conjunctiva, and is fully considered in the section on Diseases of the Eye.

Orchitis.—See section on Diseases of the Generative Organs.

Osteo-Myelitis.—See article on Bone Diseases.

Osteotomy.—This is the division of a bone and the removal of a portion of it; frequently resorted to for overcoming deformities.

Ostitis.—*Inflammation of the Bones.*—See the article on Bone Diseases.

Otorrhea.—*Running of the Ear.*—This is usually the result of inflammation from injuries or diseases; and frequently occurs in scrofulous persons.

Ovarian Diseases.—The ovaries are subject to many diseases, such as inflammation, hypertrophy, atrophy, dropsy (ovarian tumors), etc. They are all fully considered in the section on Diseases of Women.

Ozena.—This is a purulent and offensive form of catarrh. See the article on Catarrh.

PAINTERS' COLIC.

Lead Colic. Saturnism.

In various ways lead may enter the system and cause degeneration of tissues wherever it is deposited, the nerves and muscles being chiefly affected through impairment of nutrition. Persons who handle the metal or its salts, and painters and white lead workers are chiefly affected, though the metal may be inhaled from newly painted walls, or it may be absorbed from lead ointments on the skin, and it may enter the system through the stomach by the use of contaminated water—rain water being easily contaminated by passing through lead pipes.

Symptoms.—There is constipation, nausea or vomiting, hiccough and belchings, spells of colic with drawing in of the abdomen, disturbances of vision, and perhaps trembling or partial paralysis, especially of the arms or wrists. There will be great paleness and dryness of the skin, the breath will be offensive and the gums blue and the teeth darkened.

Treatment.—Colic must be treated as ordinary forms of the trouble. Iodide of potash is useful—not as a remedy, but as a chemical agent—lead forming with it a soluble compound which is eliminated from the system with the urine. Hygienic observances are very necessary. Great care should be taken against inhaling or otherwise introducing lead into the system. After handling lead or paint the hands and nails should be thoroughly cleaned before eating, and very soft water should never be used for drinking purposes after it has stood in lead pipes any length of time. The free use of milk and the employment of sulphur baths will prove beneficial.

PALATE—FALLING.

Relaxation of the Uvula.

From cold and various other causes the uvula, usually known as the palate, becomes elongated and hangs down, touching the back of the tongue, giving rise to a tickling sensation which provokes coughing. The use of astringent gargles, such as of raspberry leaves or bayberry bark will usually be sufficient to afford relief.

Obstinate cases should be treated by touching the pendant uvula with dry tannic acid or powdered wild cherry bark, which may be placed upon the end of a knife-blade and thus conveyed to the part. Occasionally this falling of the palate is so persistent that it can be permanently relieved only by cutting off a portion of the uvula with an instrument made especially for the purpose.

Palate—Cleft.—See article on Hare-Lip.

Palate Ulceration.—This occasionally occurs during certain diseases, chiefly syphilis, and must be treated accordingly.

Palpitation.—*Tachycardia.*—This is fully considered in the article on Heart Palpitation.

PALSY.

Shaking Palsy. Paralysis Agitans.

The chief characteristic of palsy is trembling of the limbs, chiefly the arms. The sufferer is unable to control the trembling except by holding the limb. The difficulty of itself is not fatal, but its duration may extend over many years and prove very annoying.

The causes of palsy may be various, such as great mental or nervous strain, anxiety, excessive labor or physical strain or fatigue, the result of poisoning by alcohol, stramonium, opium, etc.

Treatment.—There is no specific treatment for palsy. Seek out the cause and remove it if possible, employ frequent baths with friction; avoid strains and excess of mind and body; use a most nourishing diet and keep the mind cheerful and the surroundings pleasant. A cure is occasionally affected when the cause is absolutely known and it is possible to act accordingly.

PANCREAS—DISEASES.

Inflammation. Softening. Degeneration, Etc.

The Pancreas is the human "sweet bread" and its secretion (pancreatic juice) plays an important part in the digestion of food within the intestines, and any disease or derangement of the pancreas necessarily interferes with perfect digestion.

Inflammation, softening, hardening, fatty degeneration, calculi, cysts and malignant diseases of the pancreas may occur. Usually the symptoms are very obscure and are concealed by the symptoms of other forms of diseases generally present at the same time.

Deficiency of pancreatic juice is a frequent cause of intestinal indigestion, giving a sense of uneasiness and possibly pain just beneath the stomach a couple of hours after meals. Pancreatin is a preparation useful in such cases. Peptenzyme is likewise most beneficial taken in the form of elixir. Dose, a teaspoonful or more half an hour after meals.

Parageusia or perversion of the sense of taste is not uncommon among insane or even hysterical persons. Inability to recognize sweet from sour is probably a most aggravated form.

PARALYSIS.

Paraplegia. Hemiplegia. Palsy, Etc.

Under the general term of paralysis are classed various conditions which involve inability, partial or complete, to control various muscles of the body. It may be caused by nerve diseases, muscular strains, excesses, poisoning, scarlet fever, diphtheria, meningitis, etc. Paralysis may also be the result of apoplexy, or softening of the brain, or of injuries. It may affect almost any part of the body and render various actions impossible.

Paraplegia is paralysis of the lower limbs and possibly also of the muscles of the bladder and rectum. It is the result of disease or injury of the spinal cord, sometimes involving the brain. It nearly always occurs suddenly, heralded by pain in the back and tingling and numbness, soon followed by partial or complete loss of power.

In some cases, especially when it is secondary to previous constitutional disease such as syphilis, paraplegia may cause sudden and complete paralysis of the whole lower half of the body. Usually muscular inability is progressive and accompanied with cramps, pains and twitchings of the muscles. The sufferer loses all control of the bladder and rectum, and when these are full their contents are slowly discharged in-

voluntarily and unknowingly. Bed sores are liable to form and become extremely bad, often eating into the bones; treatment for them is given elsewhere (see Bedsores).

Treatment.—Extreme cleanliness is a necessity in all cases. Drawing off urine by a catheter regularly should be practiced, or a rubber urinal worm. Treatment is of little avail. Electricity is employed in most cases, and nervine liniment over the spine is advisable. Diet must be nourishing and easily digested, and the surroundings cheerful.

Hemiplegia is partial or complete paralysis of one lateral half of the body, usually the arm and leg of one side, and one side of the tongue and possibly of the face. The paralysis comes on suddenly as “a stroke” and the victim falls, or it may occur at night time, and then the first manifestations will be a sudden awakening with a groan, inability to move, and probably unconsciousness. As a rule consciousness is regained, and the sufferer all through the difficulty is completely conscious of his affliction.

The paralysis of the muscles of the face give unsightly contortions, the cheek and lips on the affected side hang down and the eyes and head are usually turned toward the well side. Speech is greatly interfered with and often entirely lost. In most cases there is control over the bladder and rectum, although pronounced constipation is the rule.

Treatment.—It must be remembered that the seat of the difficulty lies in the brain. If the right side of the body is paralyzed, then the left side of the brain is affected, and vice versa. Electricity in hemiplegia is usually more harmful than beneficial. Perfect rest, freedom from excitement, careful nursing, light and nourishing diet, abundance of fresh air, avoidance of effort, and the observance of the general rules laid down for apoplexy are essentials in the treatment of hemiplegia. The bowels must be kept open, and stimulation in the form of liniments or washes applied to the affected limbs. Temporary cases should com-

mence to improve within ten days and gradually progress toward recovery. Hopeless cases remain stationary for a long time.

Facial Paralysis involves chiefly the muscles of expression on one side of the face, though both sides may possibly be affected. The seat of the disease does not lie in the brain, but is situated just outside the cranium behind the ear, where the nerve issues that supplies the muscles of the face. Pressure from various causes upon this nerve may produce the paralysis.

The first symptom is usually inability to keep the food, while eating, between the teeth, due to loss of action of the muscles of the cheek, for the muscles of mastication are not affected. The mouth becomes drawn down on one side, and there are hideous contortions of the face during attempts to laugh or talk, and the eyelid of the affected side remains open.

Treatment.—Use stimulating liniment freely behind the ear and place a bandage about the head and thus keep in place borated cotton at the seat of the difficulty. In from one to four weeks there should be complete recovery. Often glandular and other diseases produce permanent facial paralysis.

Ascending Paralysis.—From conditions not yet fully ascertained arises this fatal form of paralysis. It commences in the feet and rapidly extends upward to the legs, thighs, chest, arms, throat and face. The muscles become flaccid and the victim helpless and confined to bed. Difficulty of breathing and swallowing progresses and the power of speech is lost. Death from asphyxia usually occurs within two weeks, possibly earlier or later.

Recovery seldom occurs. The difficulty may or may not be ushered in by fever. Treatment must be confined to relieving the symptoms, as the nature of the cause is not known.

Glosso-Pharyngeal Paralysis.—The early symptoms of this distressing condition is inability to use

the muscles of the tongue, lips and soft palate, and then of the larynx and pharynx. This causes peculiar and inevitable conditions. The victim cannot whistle, or spit or pucker the mouth at all. The tongue becomes hollowed out and insensible, and there is insensibility of the palate. Eating is difficult on account of improper handling of food in the mouth, and the impossibility of swallowing, the food being allowed to fall down the gullet by throwing the head back. Ability to talk is lost. Breathing becomes shallow. The pulse is frequent and the bodily temperature below normal. Great weakness rapidly follows and death from inability to get sufficient air into the lungs is the almost inevitable result. Treatment is ineffectual beyond relieving symptoms and aiding deglutition and respiration.

Parasites.—These are the various vegetable and animal growths which live and multiply upon diseased human structures. They are almost innumerable; and vary in size and characteristics. Skin diseases abound with them and they are found to be present in almost every abnormal condition of serious consequence; so much so that they are believed by many to be the sole causes of disease. Others hold that the healthy organism does not permit their existence and they are found only after unnatural conditions have been manifested. See also articles on Lice, Echinococcus and on Worms.

Parosmia signifies a perversion of the sense of smell. Epileptic, insane or hysterical persons are often thus affected. To some the odor of a rose is disgusting, while that of onions or other usually disagreeable articles is enjoyed.

Parotid Tumors.—These are enlargements of the parotid glands (hypertrophy) at the angle of the jaw. They may be of variable size and consistency. Some are small and soft and cause little annoyance; others are large and hard and may cause great disturbance by pressure. Occasionally parotid tumors become

malignant and result fatally. Removal is the only method of cure.

Parotitis.—*Inflammation of Parotid Gland.*—See the article on Mumps.

Pediculosis.—See article on Lice.

Pellagra.—A disease mostly confined to Southern Europe, characterized by pigment deposits of the skin, eruptions and scales. It is followed by depressed conditions of the system, melancholia and brain disturbances. It is supposed to be caused by long exposure to the sun's rays. It runs a course of from eight to twelve years, and usually proves fatal. Occasionally recovery may follow the observance of strict hygienic regulations, seclusion from the sun's rays and a nourishing diet.

Pelvic Abscess and Cellulitis.—See section on Diseases of Women.

Pemphigus.—See article on Bullæ.

Pericarditis.—This is an inflammation of the covering of the heart. See article on Heart Diseases.

Periostitis.—Inflammation of the covering of the Bone. See article on Bone Diseases.

PERITONITIS.

Inflammation of the Peritoneum.

The peritoneum is a membrane which hangs over the bowels in a fold, like an apron, and is reflected and adhered upon the internal organs of the body. Any injury to the abdominal cavity or in the region of the peritoneum or exposure to severe cold or infective diseases or inflammation of organs may excite inflammation of the peritoneum, known as peritonitis.

Abortion and imprudencies during confinement often cause peritonitis, which is described as Child-Bed

Fever. Ordinarily peritonitis is an uncommon difficulty and is exceedingly dangerous.

Symptoms.—A sudden and severe chill is the first manifestation, which is persistent in character. Fever follows, and the temperature may soon reach 105° , but is not usually constant. The pulse becomes exceedingly frequent and weak, and breathing rapid and shallow. It is always a bad sign when respirations seem to involve only the upper part of the chest. Nearly always vomiting commences early and is persistent, greenish material and even fecal matter being occasionally vomited. Constipation is the rule, although there may be diarrhœa; the tongue is coated or red and dry, and the urine is scanty.

The most prominent symptom of peritonitis is the tenderness and pain throughout the abdomen, which is intensified by the least disturbance, such as pressure, jarring, deep breathing, walking of others across the room and even loud talking. The abdomen soon becomes distended, and appears "tight as a drum." Hiccough, sleeplessness and delirium are most unfavorable symptoms.

Death may occur within a week; and if convalescence sets in it is slow and fraught with danger.

When peritonitis is caused by perforation of the stomach or intestines the symptoms are frightful pain, cold sweat and great paleness, sudden icy coldness of the extremities, and a feeling that something has broken in the body. Agonizing death follows in a few hours.

Treatment.—Absolute quietude is imperative, and action must be quick and decisive, for life hangs upon a single thread. If there is constipation unload the bowels by an injection of catnip or boneset in starch water. Place hot irons to the feet. Rub stimulating liniment over the abdomen, and also place over the abdomen a hot fomentation of smart weed and lobelia herb if procurable, or thin and hot poultices of flaxseed, sprinkled over with lobelia and capsicum.

Internally, give every half hour a tablespoonful of infusion of pleurisy root, containing a little ginger and scullcap, until perspiration is secured, and then

leave out the pleurisy root and add blue cohosh. Should convalescence be established it will require throughout the most careful nursing and a light diet; also frequent use of stimulating liniment over the abdomen and tonic infusions internally.

PERNICIOUS FEVER.

Degenerate Malarial Fever.

This is a very dangerous condition which may arise during the course of malarial fever. It may occur in various forms. Apoplectic symptoms may arise, embracing profound stupor, convulsions may be developed, but paralysis will be absent. In other cases the circulation is affected. The surface may be cold and drenched with profuse perspiration, breathing feeble, and the heart very weak and prostration marked. Again all the symptoms of Asiatic cholera may arise.

Treatment.—Malarial fever is pronounced and readily recognized before the symptoms of pernicious fever set in. The following may be given every two hours in water: One-half teaspoonful each of fluid extracts of gentian and scullcap and tincture of capsicum. The dose is heroic, but the patient will readily take it and in some cases almost enjoy its bitterness and intensity. If the surface is cold give hot infusion of composition and make hot applications externally.

Pertussis.—*Chin Cough.*—See article on Whooping Cough.

Pestilence (Glandular).—See article on Plague.

Petit Mal.—A mild form of epilepsy. See the article on Epilepsy.

PHARYNGITIS.

Inflammation of the Pharynx.

This is an inflammation of the pharynx, usually associated with laryngitis. It is characterized by pain,

redness and swelling and difficulty of swallowing, often interfering with respiration. Occasionally small points of ulceration resembling pimples may form at the back of the throat, constituting a form of the trouble known as follicular pharyngitis. Usually the uvula, commonly known as the little palate, becomes swollen and falls upon the tongue, giving rise to a hacking cough.

Treatment.—Give freely stimulating drinks, such as infusion of composition, or raspberry leaves and ginger. Locally, use a spray of infusion of golden-seal and gum kino containing borax. The feet must be kept warm and the whole body frequently bathed in warm water and well dried. Diet must be light.

Phimosiis.—A constriction of the foreskin. See section on Diseases of the Generative Organs.

Phlebitis.—*Inflammation of the Veins.*—See the article on Vein Diseases.

Phlegmasia Dolens.—*Milk Leg.*—This a peculiar condition of the leg occasionally met with in weak or unhealthy women during confinement. The leg becomes greatly swollen, white and glistening. It is fully considered in the section on Diseases of Women.

Phrenitis.—*Inflammation of the Brain.*—See the article on Brain Diseases.

Phthiriasis.—This is a skin affection, characterized by raw and scaly spots on various parts of the body, which become inflamed and tender and itch intolerably if not relieved; may cause superficial suppuration. The difficulty is caused by lice (pediculosis). Remove the cause as directed in the article on Lice, and then anoint the parts with witch hazel ointment.

Phthisic.—See article on Asthma.

Phthisis Pulmonalis.—This is fully described in the article on Consumption.

Pigeon Breast.—This is a deformity due to disease of the bones of children, characterized by flattening of the sides of the chest walls and protusion of the breast bone, like that of a bird. It is treated of under the title of Rickets.

PILES.

Hemorrhoids.

These are small tumors in the rectum near the anus, either of the small blood vessels or of folds of the mucous membrane. Their extreme painfulness is caused by the cramped condition of the very minute and sensitive nerve filaments.

Persons of sedentary habits, and those whose structures are relaxed and those whose occupations enforce long sitting or standing, are most liable to suffer. But the most prolific cause of piles is constipation—the retention of fæces in the rectum causing pressure and distention and consequent trouble. Piles develop slowly and may be of several years' growth before they cause extreme annoyance. They are a source of agony to millions throughout life.

Besides the local suffering caused by piles, more serious conditions are present in most cases. The constant irritation upon the peripheral nerves induces a sad condition of the nervous system, bringing about dyspepsia, weakness and a general “running down” of the system.

Internal piles are situated within the rectum, and *external* piles about the anus. Internal piles may be fleshy or longitudinal, and are then called *blind* (not bleeding); they may be globular in shape and contain minute blood vessels and be of red or blue color and frequently bleed, such are called *bleeding piles*. External piles vary in appearance from resembling mere folds of skin to large size “teats” or tumors. A small class of piles about the anus are often classified as *itching piles*.

Symptoms.—These vary and may include any of the following: Pain, itching and sense of weight in the rectum, increased by prolonged standing or sitting,

agony at stool leading to putting off attending to nature's calls; there may be irritability of the bladder, disturbed sleep and loss of flesh, and often dyspepsia and muscular debility.

Occasionally there will be many symptoms of dysentery, accompanied by bloody and mucus stools. The piles may bleed profusely and cover the fæces with blood. Sometimes a large internal tumor will pass through the anus and be strangulated by the muscle contracting upon it, causing intense agony and a possibility, unless soon relieved, of suppuration or even gangrene setting in.

Treatment.—A diet of fruits and succulent vegetables and the avoidance of stimulants is advisable. Mild physic may be used, but such a preparation as Butter-nut Syrup (see formulas) with a little cascara added, will be best. An attempt must be made daily to evacuate the bowels, as regularity is of first importance.

Mild cases will be relieved and permanently cured by frequent applications of witch hazel ointment. Accumulations of hardened fæces must be softened by injections. Great pain and tenderness caused by inflammation may be relieved by applying witch hazel ointment.

Protruded piles which are strangulated, must first be relaxed with lobelia ointment and then shoved back into the rectum while the patient is on his knees and chest; then there must be applied an ointment of one drachm of tannic acid in an ounce of vaseline. This application is most excellent for bleeding piles. Surgical operations are often necessary, and may be conducted almost painlessly and with permanent relief.

Pimples.—See article on Acne.

PITYRIASIS RUBRA.

Prostrating Skin Disease.

This is a very rare and usually fatal condition, characterized by the body becoming progressively

covered with scales, while the skin becomes red and tender, and blue on exposure to cold. There are no swelling pimples or moisture. The appetite fails and great debility precedes death. The scales come off in large quantities and the nails become irregular.

Treatment.—Locally, the whole body should be anointed thoroughly with cocoanut oil, containing a little oil of lobelia and oil of capsicum. Internally, the strength should be sustained by compound syrup of gentian containing half a drachm of fluid extract of cinchona to the ounce.

PLAGUE.

Black Death. Pestilentia. Bubonic Plague.

This is one of the most ancient diseases, and before attention was paid to private and public hygiene its ravages were terrible. During a period of eight years in the middle of the fourteenth century over twenty-four millions of lives were lost by black death in Europe alone. At the present time it is confined to the unsanitary portions of Asia and Egypt.

Symptoms.—It is an infectious disease, and symptoms may commence within a few hours after exposure. These are great prostration, dizziness, palor, dilated pupils, staggering, burning sensation in the throat, bloodshot eyes, heart depression, vomiting. These symptoms are followed by a severe chill, quickly succeeding which is a high fever, great thirst and frequent pulse; the head aches, the tongue is white and there is great irritation in the stomach and bowels.

This condition does not last long, prostration soon following. The pulse becomes small, frequent and weak, the breathing is shallow and hurried, there are fainting spells and soon unconsciousness and delirium and stupor. A dark coating appears over the tongue and teeth, there is vomiting of dark material, considerable stringy mucous is coughed up from the lungs, hemorrhages may occur, the urine may be bloody, and offensive diarrhoea may take place. These fever symptoms may last six or ten days.

Death may take place at this stage, or if life is prolonged, local symptoms may manifest themselves. The glands of the groin and neck and elsewhere enlarge and form painful buboes. Carbuncles form over the body and the capillaries of the skin become engorged, giving a black-and-blue appearance. Death may follow from blood poisoning, or the buboes and carbuncles may suppurate and be evacuated and recovery follow.

Treatment.—Cleanliness and fresh air, pure drinking water and nourishing food are of the first importance. In the fever stage administer infusions of ginger, pleurisy root and lady slipper, with a little tincture of myrrh; after the bowels have been emptied, a stimulating emetic (see emetics) should be administered. Bathe the body, when hot, with borax water.

During the period of depression administer freely the composition (see formulas) to which may be added a little tincture of myrrh. When carbuncles and buboes form they should be poulticed and evacuated as quickly as possible, and compound tincture of myrrh used freely. It may be found necessary to administer several stimulating emetics during the course of an attack. Convalescence is slow, and tonics, such as golden seal and gentian should be administered along with most nourishing food.

PLEURISY.

Inflammation of the Pleura. Pleuritis.

This is an inflammation of the membrane which covers the lungs. It is most frequently caused by sitting in drafts of air, or chilling the body, especially after being heated. Occasionally it is a very unpleasant complication of bronchitis, pneumonia or consumption.

Symptoms.—There is usually more or less chilliness followed by fever and a lancinating pain in the chest, as though the lungs had caught against the chest-wall. Taking a full breath increases the pain, or may be

impossible, and consequently breathing is shallow. One side or both sides may be affected and the patient wishes to lie either on the back or the well side. Coughing increases pain.

Mild cases present no other symptoms and recover in one or two days. Severe cases are protracted and develop many aggravating symptoms, such as constant and painful cough and expectoration of glairy and glutinous mucus.

Hydrothorax.—Fluid may accumulate in the sac about the lungs which may be absorbed before mischief is done, or may produce dangerous conditions, especially in the aged or feeble, known as *hydrothorax*, or dropsy of the chest. This may cause dropsy of the limbs, heart irregularities, paleness or blueness of the skin and viscid or bloody urine. Usually the fluid is absorbed, although death or chronic disease may follow. When the fluid is mingled with pus, the condition is known as *empyema* and resembles phthisis.

Very frequently persons who have often suffered from pleurisy have adhesions of the sac to the lungs or to the ribs, which give permanent difficulty of breathing, accompanied by pain, increased upon the least exposure.

Treatment.—Quietude in a recumbent position is of first importance. Avoid all drafts and keep the room at a moderate and even temperature. Rub the affected side well with stimulating liniment and place over it several thicknesses of heated flannel, or fill a cloth sack with hot salt and wrap it in flannel and apply to the side.

Internally, give every half hour a tablespoonful or more of an infusion of pleurisy root containing a little ginger and lady slipper, and if the urine is not free, add some peach leaves. When dropsy of the chest is present composition and scullcap must be given freely, and every three hours a capsule containing a grain each of capsicum and sulphate of hydrastia.

Pneumonia.—*Inflammation of the Lungs.*—See article on Lung Fever.

POISONING.

General Symptoms and Treatment.

Accidental poisoning is liable to occur at any time, and unless prompt action is taken death may ensue speedily. It becomes absolutely necessary to have on hand directions for counteracting the effects of poisonous substances which may be taken into the system, as well as methods of distinguishing the effects of various poisons.

The number of substances capable of causing death when taken into the stomach amounts into the thousands, and to give detailed descriptions of all would only cause confusion. The ordinary poisons, the symptoms they produce and their antidotes will be given.

It is a deplorable fact that the employment of poisons as remedies, instituted during the dark ages to enshroud medicine in mystery, is still practiced by many. Carelessness in handling so-called remedies and the keeping of poisons about the house, as insect exterminators or for mechanical use, cause many needless deaths.

Symptoms.—Whenever, soon after eating or drinking, there are symptoms of an unusual character, such as pain in the stomach, retching or vomiting, diarrhœa, burning or metallic taste in the mouth and a sense of anxiety, poisoning should be suspected, especially if two or more persons are attacked about the same time, after partaking of the same substances. Still in some instances, symptoms of poisoning do not present themselves for several hours after the poison has been taken, and then, again, symptoms of poisoning may be very different from those mentioned.

POISONING—ACIDS (MINERAL).

Muriatic (Hydrochloric). Nitric (Aqua Fortis). Sulphuric (Oil of Vitriol).

These acids are so frequently used in the arts that poisoning by them often occurs. They act by corrod-

ing or burning the parts with which they come in contact, destroying tissues and causing frightful scars, if not death.

Symptoms.—Puckering of the membranes of the mouth, burning pain in the mouth, throat and stomach, profuse saliva or vomiting of material varying in characteristics according to the amount of acid taken—being frothy, stringy, bloody or black or like coffee grounds, and causing effervescence when falling upon stones or chalk. The lips and inside of the mouth are stained or raw or covered with spots caused by corrosion. If relief or death does not occur soon, there may be hiccough, difficult and painful breathing, altered voice, pain through the abdomen, constipation or bloody discharges, desire and inability to urinate, cold extremities and clammy sweats.

Treatment.—Neutralize the acid as quickly as possible by giving any one of the following substances that can be most quickly obtained: Soapy water, chalk and water; calcined magnesia, white-wash, dilute ammonia (cooking or washing soda in water can be given immediately after the acid is taken; but when there is vomiting of dark material the gas given off from the soda is liable to burst the corroded stomach). When no lime or other alkali seems handy, lime may be scraped from the wall or ceiling.

Follow the antidote with white of egg, milk or oils, and during convalescence give drinks of flaxseed, or marsh-mallow, or hollyhock tea, or water containing gum Arabic. Give scullcap infusion in slippery elm bark as an injection to the bowels to sustain the nervous system. Food must be chiefly of milk and raw eggs, if the stomach is able to take nourishment, otherwise food must be given by the rectum.

Action cannot be too prompt and thorough in such cases. The acid is liable to cause perforation of the stomach and death, or ulceration of the stomach, or stricture of the œsophagus may follow, which should be treated accordingly. The stomach pump should not be used in acid poisoning, as it is liable to damage corroded tissues.

Sulphuric acid turns the skin and membranes dark and causes a soft sloughing.

Nitric acid turns the skin yellow or orange.

Muriatic acid bleaches the skin or gives it light yellow spots; it also gives off vapors which are very penetrating.

POISONING—ACIDS (VEGETABLE).

Oxalic. Acetic. Prussic.

Oxalic and Acetic Acids are frequently taken by mistake and produce symptoms similar to those of poisoning by the mineral acids, and the treatment should be similar with the exception that in oxalic acid poisoning all forms of soda, potash and ammonia should be avoided, as they form poisonous compounds with the acid. Cases are on record of children having eaten "sour grass" in excess and then been given soda to correct the sour stomach, and thus causing fatal poisoning.

Prussic Acid, also known as hydrocyanic acid, is a fearful and rapidly fatal poison: forty drops may cause death in a few minutes. Children may eat excessively of peach kernels, and by their fermentation in the stomach prussic acid may be formed.

Symptoms are dizziness, numbness, possible convulsions and collapse. There may be irregular breathing, cold extremities and profuse perspiration, bulging of the eyeballs and stupor; the odor of peaches is readily recognized.

Laurel Water produces the same symptoms.

Treatment.—The stomach should be emptied as soon as possible by an emetic or stomach pump. Stimulation must be given internally, preferably the compound tincture of myrrh in compound spirits of lavender, although the stimulant easiest obtained must be used without delay, and when there is inability to swallow, stimulating injections must be given to the rectum. Where breathing is labored alternate applications of hot and cold water must be made over

the chest, and artificial respiration may be necessary. A mild current of electricity over the heart is often resorted to.

POISONING—ALKALIES.

Ammonia. Potash. Soda. Lye.

Soda, potash, lye, ammonia, and quick lime are the strong alkalies which may cause fatal poisoning. There will be some of the following symptoms: Burning and pain in the mouth and throat and stomach, corrosion of the lips and mouth, vomiting, often bloody or dark, and possibly bloody diarrhœa.

Treatment.—Give freely drinks of water containing vinegar or lemon juice, or oranges. Follow by the use of white of egg, gum Arabic water or other demulcent, and feed milk and gruel.

POISONING—CARBOLIC ACID.

Phenic Acid.

This poison gives symptoms similar to other acids, and is readily distinguished by its peculiar odor.

Treatment consists in using the stomach pump or quickly giving an emetic of a tablespoonful of mustard in a pint of lukewarm water, and then administering soda or lime in water and thus washing out the stomach until all odor of the acid disappears. White of egg or milk must then be given. Hot applications to the extremities may be necessary, and in severe cases friction or the use of electricity. If there are symptoms of collapse stimulants must be administered internally.

POISONING—ANAESTHETICS.

Chloroform and Ether, Etc.

The symptoms of dangerous poisoning from chloroform or ether are extreme coldness of the skin, very

feeble and irregular pulse, becoming almost imperceptible, and lividness of the face, retraction of the tongue, and general symptoms of collapse.

Treatment.—Seize the tongue and, drawing it forward, keep it from falling back into the throat. Remove artificial teeth and loosen the clothing. Supply an abundance of fresh air. Alternately apply hot and cold water to the chest, and practice artificial respiration. The battery may be used—one pole over the stomach and the other on the front of the neck. Slapping the chest violently may arouse the action of the heart. A most efficient means consists in inserting into the rectum a bi-valve speculum and stretching the muscles of the anus. Two fingers, of different hands, might serve the purpose instead of the speculum. No means should be left unemployed.

POISONING—ARSENIC.

Arsenious Acid.

Symptoms of arsenic poisoning usually commence within an hour after the poison has been taken, and embrace a metallic taste in the mouth and a sense of constriction in the throat, burning pain in the stomach and tenderness, retching and vomiting and great distress. The skin becomes cold and clammy, and the pulse weak and irregular. There may be violent and painful purging and possibly bloody urine. Such symptoms may continue from one to three days before death ensues in the form of collapse, stupor or convulsions.

Treatment.—The antidote for arsenic poisoning is freshly prepared hydrated oxide of iron, kept in the drug stores. It should be given in tablespoonful doses every five or ten minutes. Give an emetic of mustard in salt water and excite vomiting by tickling the throat till the iron preparation is secured. Follow by milk and white of egg, and treat the after effects as for inflammation of the bowels.

POISONING—CARBONIC ACID GAS.**Coal Gas. Gas of Wells, Etc.**

The victim will usually be found unconscious and breathing heavily, or else in a stupor and breathing almost imperceptibly; extremities cold and skin pale or livid.

Treatment.—Fresh air is of first importance. Take the patient out of doors or open doors and windows and place him in a draft. Apply hartshorn to the nostrils. Rub the extremities briskly with stimulating liniment or other stimulants. Artificial respiration may be necessary. When possible administer stimulants by the stomach and follow by strong coffee or inject into the rectum a pint of strong coffee containing ginger. Dashing small quantities of cold water on the chest followed by brisk rubbing will be useful. Charcoal fumes produce the same symptoms, to be treated similarly.

Caustic Soda or Potash.—See Alkali Poisoning.

POISONING—CORROSIVE SUBLIMATE.**Bi-Chloride of Mercury.**

Corrosive sublimate is frequently used in medicine and is a domestic preparation for destroying vermin, making great the liability of poisoning by it. The symptoms commence soon after swallowing the poison and are metallic taste and burning in the mouth, throat and stomach, pain in the stomach and bowels, desire and inability to urinate, colic, vomiting and purging, pinched countenance and cold surface.

Treatment.—Administer as quickly as possible the whites of two or three or a dozen eggs, beaten in water, or give a thin flour batter and excite vomiting by tickling the throat. Follow by abundance of milk containing lime water. In some cases the stomach pump may be used, or an emetic of mustard in salt water.

Chronic poisoning may follow the long continued use of small doses of corrosive sublimate. Its symptoms embrace salivation, the formation of ulcers, palsy or paralysis agitans, and great debility and emaciation.

POISONING—NARCOTICS.

Opium. Morphine, Etc.

The indiscriminate use of narcotics causes many cases of poisoning by accident, over-dosing, suicide or homicide.

Symptoms.—These include drowsiness and blunted sensibilities progressing to profound stupor. The skin at first is dry and warm and the face flushed or dark, breathing heavy and slow, the pupils of the eyes contracted. Shaking and talking loud to the patient may partially arouse him. In severe cases, likely to end in death, the stupor is very profound, and no evidence of sensibility can be aroused, the face is blue, and the skin grows cold, and profuse perspiration occurs. The pupils of the eyes become contracted to mere pin points, except just before death, when they may be dilated.

If taken upon an empty stomach opium or its preparations may cause death in six hours or even less, but if the stomach is full, even twenty hours may supervene; but death usually occurs within twelve hours after the narcotic is taken.

Treatment.—There is no specific antidote for opium. Vomiting should be aimed at from the start, provoked by mustard in salt water; or the stomach pump may be used. The most readily procurable and the most efficient article to administer is strong coffee. It should be poured into the stomach the first thing, and should be hot; its astringent properties seem to render the poison less soluble and more easily evacuated. Infusion of bayberry bark or of tannic acid and a little capsicum may answer.

Every effort must be made to arouse the patient. Alternately dash very small quantities of hot and of

cold water in the face. Slap the chest and soles of the feet with a wet towel. Walk the patient back and forth, letting two persons support him. Shout loudly into his ear; apply a mild current of electricity—one pole at the back of the neck and the other at the breast bone. Keep up treatment even after apparent recovery.

POISONING—PHOSPHORUS.

Matches and Rat-Paste.

Symptoms.—These are peculiar and bad taste in the mouth, vomiting, possibly of blood, faintness, colic, diarrhœa, burning sensations in the mouth and stomach. The urine will appear luminous in the dark and will be scanty. Death may occur quickly after large doses, but usually several days of extreme weakness, jaundice, headache and low fever are experienced.

Treatment.—Quickly excite vomiting by tickling the throat or by an emetic of mustard in salt water, first giving large drinks of thin batter. After vomiting give freely flaxseed tea or other demulcents. Give no tea, or milk or oils. All fatty substances are injurious and favor the absorption of the poison. Ten-drop doses, every hour, of French turpentine have been recommended.

A one-fourth of one per cent solution of potassium permanganate has been declared an antidote for phosphorus, but has not been used extensively enough to confirm the declaration.

POISONING—POISON IVY.

Rhus Toxicodendron.

This is poisonous to some persons and many cannot even approach it, not less touch it, without being affected. The symptoms of poisoning are great swelling and inflammation, itching and burning of the skin, sometimes followed by blisters and perhaps superficial ulceration.

Treatment consists in using freely a wash of an infusion of lobelia and goldenseal to which has been added small quantities of hyposulphite of soda and glycerine. This may be applied externally by cloths saturated with it.

POISONING—SALTPETRE.

Nitrate of Potash.

Symptoms.—Burning pain in the stomach, vomiting, purging, very weak and irregular pulse, cold and clammy skin, drowsiness, insensibility, and possibly death in from five to twelve hours.

Treatment.—Antidotes are unknown. The stomach pump or an emetic of mustard in salt water should be given. Stimulating drinks or injections are needed where the surface is cold, also hot applications externally and brisk rubbings. Mucilaginous drinks, such as flax-seed, white of egg and water and olive oil are serviceable.

POISONING—SNAKE VIRUS.

Snake Bite.

Symptoms first produced are those of shock, which may be overcome before the fatal symptoms commence; these are manifested within from half an hour to five or six hours as vomiting, feeble pulse and weak respirations, swelling and lividness about the wound, and mottled surface.

Treatment.—Have the wound sucked immediately; tie a cord or handkerchief above the wound. Cauterize the wound by nitric acid or burning with a hot iron, or igniting gun powder placed upon it. Give internally infusion of Virginia snake root or of capsicum or ginger. Black cohosh and wild yam are excellent and infusions may be given freely. If there is tendency to gangrene, apply compound tincture of

myrrh and also add some of it to the infusions. Applications of smart weed may be made.

Stimulation must be aimed at, and the substances mentioned are far superior to whisky or other alcoholic liquors. If death does not occur within an hour and a half, recovery may be expected if treatment is vigorously pursued. Kerosene given in teaspoonful doses on sugar has been found effectual in many cases.

POISONING—STRYCHNINE.

Nux Vomica.

This is one of the most active poisons and is rapidly fatal. Within fifteen minutes after the poison is taken symptoms commence, such as sense of excitement, suffocating feelings, choking sensations, muscular twitchings and trembling of the body. Every few minutes there may be severe spasms, excited by jarring the body or by noises or disturbances of any kind. The body stiffens and bends like a bow, supported by the head and heels, every muscle seems contracted and breathing almost ceases. Such spasms last not over a minute and are followed by profuse perspiration and exhaustion. Consciousness is maintained. Death usually occurs in less than an hour.

Treatment.—Quickly administer an emetic of mustard in salt water. Kerosene in teaspoonful doses on sugar is said to be an antidote. Spasms may be relieved by inhalations of chloroform and ten drop doses of the same diluted. Animal charcoal and strong coffee may be used freely. Recovery leaves great nervous irritability, which call for soothing nervines.

POISONING—STRAMONIUM.

Jimson-Weed. Stinkweed.

This often causes poisoning, especially to children who partake of the seeds.

Symptoms.—These are dizziness, trembling, coldness of extremities, delirium or stupor and impaired vision and neuralgic pains through the head.

Treatment.—An emetic must be given at once, consisting of a tablespoonful of mustard in a pint of warm water containing a teaspoonful of salt. A pint of strong coffee should be injected into the rectum; and after vomiting has been produced stimulants should be given by the stomach, such as strong infusion of composition.

Hot applications should be made to the extremities, and mustard or stimulating liniment rubbed on the limbs. Splashing alternately hot and cold water on the chest or striking with a wet towel may be necessary. Quiet must be provided during convalescence. Stramonium poisoning is liable to leave persons susceptible to neuralgia and mental confusion.

POISONING—TOADSTOOLS.

Poison Mushrooms.

Symptoms of poisoning in from six to fifteen hours after the toadstools have been eaten, such as pain and heaviness in the stomach and bowels, nausea, vomiting, diarrhœa, cramps and convulsions. There is great thirst and delirium, and death is preceded by stupor and cold and profuse perspiration.

Treatment must be vigorous. First give an emetic of mustard in salt water to eject any poison possibly remaining in the stomach, and then administer a large dose of castor oil to clear out the bowels. Apply hot fomentations of smart weed or other stimulants over the abdomen. Internally administer infusion of composition containing vinegar.

Apply warmth to the extremities and give encouragement to the patient. The greatest care should be taken in selecting mushrooms for eating purposes, and children should not be entrusted to gather them.

POISONING—TOBACCO.**Nicotine.**

Symptoms.—There will be nausea, faintness and collapse, followed by great prostration, and in severe cases by profuse perspiration, coldness of the surface, weak and irregular heart action and stupor.

Treatment.—An emetic of mustard (a tablespoonful) in a pint of warm water containing a little salt should be administered at once, or else the stomach pump should be used. Strong tea or coffee or an infusion of tannic acid should be given freely, either one containing red pepper. The patient should be placed in bed and hot bricks applied to the feet, and the arms and legs briskly rubbed.

MISCELLANEOUS POISONS AND ANTIDOTES.**Vegetable and Mineral.**

Monkshood, Foxglove, Deadly Nightshade (Belladonna), Hemlock, Chloral, Conium.—These give symptoms of nervous excitability and possibly convulsions, vomiting, diarrhoea and colic; there may be trembling of the limbs and great weakness; the pupils of the eyes are dilated, though in extreme cases they may be contracted. Treatment must be the same as for opium poisoning.

Digitalis and Aconite poisoning should be treated the same as for opium, with the exception that the patient must keep the recumbent position, and greater attention must be directed toward sustaining the heart's action by stimulation.

Lead and Its Soluble Salts require the administration of Epsom salts or Glauber's salts, followed by an emetic and the free use of milk, white of eggs or other demulcents.

Nitrate of Silver, lunar caustic and indelible ink require the administration of common salt in water,

followed by an emetic, and then white of eggs and milk.

Turpentine poisoning causes irritation of the stomach and alimentary canal and of the urinary organs. After an emetic has been given, sulphate of magnesia or Epsom salts should be administered (an ounce in water), followed by flax-seed tea, white of egg, barley-water, milk, or other soothing drinks.

POLYPUS OF THE NOSE.

Nasal Growths.

Occasionally growths occur far up in the nostrils causing great annoyance. They may be hard and fibrous, though usually soft and jelly-like. When they are soft and have an apparent stem a ligature may be applied and tightly drawn and allowed to remain until the polypus sloughs away. When they are small and flattened strong astringent washes, such as solution of tannic acid or gum kino or Monsell's solution of iron, may be snuffed up. Fibrous polypi must be removed by surgical operation. Unless removed nasal polypus may seriously interfere with breathing.

PRICKLY HEAT.

Summer Heat. Lichen Tropicus.

This is an inflammation of the sweat follicles, accompanied by very minute and red pimples upon the skin, which itch intolerably, and are aggravated by heat, irritation, etc.

Treatment consists in a light diet and the avoidance of stimulants, frequent baths in cool water containing soda or borax. Witch hazel extract is an excellent external application, and in severe cases the following mixtures will be found efficient: Starch, one ounce; glycerine, three ounces; or oxide of zinc, one drachm, rubbed into one ounce of vaseline. Lycopodium and starch, powdered, are useful.

PROLAPSUS OF THE BOWELS.

Prolapsus Ani.

Falling of the bowel oftenest occurs in childhood or old age. It is the result of straining at stool by those whose muscular structures, especially of the rectum, are weakened. Piles, constipation, diarrhœa and dysentery may be followed by falling of the bowels.

Symptoms.—While at stool there will be a sensation as though “the insides were coming out,” and protruding from the anus will be seen a tumor, rounded or pear-shaped, with an opening in the center. It is smooth and may be purplish. Five or six or more inches of the bowels may protrude.

Treatment consists in first anointing the protruded part with an ointment of one drachm of tannic acid in an ounce of vaseline. Place the patient on the back and gently replace the bowel, and if necessary apply a compress and enjoin quiet. Constipation or diarrhœa or other difficulties must be attended to at once.

Prolapsus of the Womb.—See section on Diseases of Women.

Psammona.—This name is given to small tumors connected with the dura mater or covering of the brain. They consist of tissue and small particles of carbonate of lime.

Pseudo-tabes is the manifestation of many of the symptoms of locomotor ataxy (tabes dorsalis) in the course of diabetes. For the description of these symptoms see Locomotor Ataxy. They usually disappear during diabetes when proper treatment is employed.

PSORIASIS.

Scales on the Skin.

This is an affection of the skin characterized by patches of white, glistening scales, usually occurring

about the elbows and knees or scalp, or possibly over the whole body. The difficulty may occur periodically once a year, usually in the winter, and may disappear without treatment, though the severe itching and the constitutional nature of the difficulty should demand attention.

Treatment.—Locally, the scales should first be removed by warm water and borax, considerable soaking being required; afterward there should be applied a wash of witch hazel extract and white fluid hydragris, equal parts, to which a little tincture of ginger should be added. Cold water applications give most relief from itching. Internally, the compound syrup of yellow dock (see formulas) should be administered.

Ptosis.—A characteristic symptom of paralysis, consisting of a falling down of the upper eyelid.

PUERPERAL EPHEMERA.

Fever of Confinement.

This is a transient fever which often occurs during confinement. It causes anxiety lest child-bed fever has commenced. About the seventh day of confinement a pronounced chill of long duration occurs, accompanied by great depression and the arresting of secretions. The pulse becomes frequent and there is headache and pinched countenance. The nails are blue, as in ague, and there are many symptoms resembling the onset of malarial fever, to which the difficulty seems to be allied.

Treatment.—During the chill give internally hot composition infusion or other stimulant, and apply warmth to the body. After the chill has passed give freely of infusion of pleurisy root and lady-slipper containing a little ginger. Recovery will be preceded by warm and profuse perspiration and a feeling of relief. Give a light diet.

PURITIS.

Itching of the Skin.

Frequently persons suffer severely from itching of the skin without any apparent cause, giving rise to great distress and annoyance, and often baffling every effort to overcome it. As there must be a cause for every physical disturbance, the particular cause for puritis must be ascertained in each individual case. Circumstances and conditions giving rise to puritis may be named as follows:

1. Tight clothing, woolen or rough garments, the use of harsh soaps, too violent rubbings, poisonous dyes in garments, insects and parasites.

2. Diseases of the skin, eczema, salt rheum, hives, erythema and various eruptive diseases.

3. Intestinal and stomach disorders, such as may be caused by eating excessively of fruits, or of foods objectionable to certain individuals, honey or cheese, or strawberries, or peaches are peculiarly apt to cause itching of the skin.

4. In Bright's disease and in diabetes, and sometimes in various forms of liver troubles, this difficulty may be a prominent symptom. Particular parts of the body may be affected on account of their formation, such as the scrotum, anus and vulva.

Treatment.—This requires the ascertaining and removal of the cause, for which a diligent search should be made at once. No one is too cleanly to be possibly troubled with lice or fleas, and these should be looked for first. If the stomach is deranged there is nothing more appropriate than neutralizing cordial between meals. Other visceral or functional disorders must be treated according to their nature.

As a rule itching can be greatly relieved by washing in warm water containing sulphuret of potash and borax in liberal quantities. Likewise spirits of camphor in a previously heated mixture of borax and glycerine is excellent. Equal parts of rosewater and distilled extract of witch hazel will prove a fine preparation.

Bathing in warm water should be frequent, but harsh rubbing should be avoided.

PURPURA HEMORRHAGICA.

Degenerate Accumulations of Blood.

This difficulty is usually brought on by exposure, especially after improper living. It is occasionally experienced after various forms of disease. Delicate persons between the ages of fifteen and twenty are the most frequent sufferers.

Symptoms.—All over the body, except the face, hemorrhages appear beneath the skin, being purple, yellow or greenish according to duration. The spots may be raised and accumulations of blood may occur and even become gangrenous. These conditions may exist in the mouth, stomach and bowels and following perforations cause death. Prostration, loss of appetite and fever are usual premonitory symptoms.

Treatment.—Keep the bowels freely open and the stomach free from acidity. Tartrate of iron and potassa and citric acid, each one drachm, in eight ounces of water, a teaspoonful before meals, will usually be found sufficient. Where there is gangrenous tendencies give internally the compound syrup of gentian (see formulas) with a little tincture of myrrh added; and apply compound tincture of myrrh to the spots. In gangrenous cases death may occur in a few days; otherwise recovery follows in from two to eight weeks.

PURPURA—SIMPLE.

Purple Spots on the Skin.

This is a trifling disorder, although often causing unnecessary worryment. It is characterized by very small hemorrhages directly beneath the skin, causing purplish spots over the body, mostly upon the legs.

There is no elevation or itching, but there is a disagreeable and disturbed feeling throughout the body in nearly all cases, accompanied by digestive disorders. The color of the spots fade and become yellow or greenish. Very frequently purpura occurs during menstruation or in the course of infectious diseases, and sometimes during tuberculosis or anæmia.

Treatment.—When other diseases are present they must be appropriately treated. When purpura occurs independently it requires no treatment beyond a light diet, fresh air and hygienic surroundings. Two weeks is the usual duration of the difficulty.

Pyelo-nephritis.—Inflammation of the pelvis of the kidney accompanied by acute inflammation of the kidney.

Pyo-nephritis.—The sac of the kidney filled with pus during pyelo-nephritis.

Pyothorax.—This is the presence of pus in the cavity about the lungs, and may occur during Pleurisy, which see.

Quartan Fever.—A form of malarial fever in which the paroxysms of chills and fever recur every fourth day. See the article on Ague.

QUINSY.

Tonsillitis. Sore Throat.

This is inflammation of the tonsils, which is frequent in the winter, especially among young persons,

the aged seldom experiencing it. Scrofulous persons are frequent sufferers.

Symptoms.—In the commencement there is a slight fever, soon followed by a sense of fullness in the throat, and pain and difficulty upon swallowing. The mouth and throat are at first dry, but mucus soon accumulates. The tonsils, usually on one side only, will be found swollen and light red. The difficulty may go no farther, but often these symptoms all become more aggravated. Loss of appetite, furred tongue, headache and constipation may follow. There is hoarseness and great swelling and difficulty of swallowing and breathing.

Looking into the throat the tonsils will be found very large and red and glassy, being covered with glary mucus. Points of ulceration will be seen, elevated above the surface, readily distinguished from diphtheritic patches, which are depressed and parchment-like. Usually these ulcerated spots discharge in three or four days and end the difficulty; though larger abscesses may form and continue ten or twelve days and cause much suffering.

Treatment.—In simple cases tie about the neck a flannel saturated with stimulating liniment; gargle or spray with a solution of borax in raspberry infusion; keep the bowels open and protect from cold.

In severe cases allow the patient to inhale vapors from a hot infusion of bayberry bark and vinegar; gargle with borax, hydrastis and raspberry leaves in infusion. Use liniment outwardly. Sustain the strength by light and nourishing diet and a tonic of scullcap. After the abscesses have discharged gargle with gum kino infusion to consolidate the tissues.

Quotidian Fever.—This name is frequently given to the severe form of malarial fever in which the paroxysms of chills and fever recur every day. See article on Ague.

Rabies.—*Mad-dog Bite.*—See article on Hydrophobia.

RANULA.

Tumor of the Tongue.

From irritations or other provocative causes a cystic tumor may form under the tongue, either in front or at the side. It resembles a sack filled with glairy mucus. Sometimes the tumor will be of sufficient size to bulge out under the chin.

Treatment is simple. With a sharp knife cut into the sac and allow the fluid to escape, and repeat the operation as long as necessary. After each emptying of the sac inject into it an infusion of kino.

RAYNAUD'S DISEASE.

Symmetrical Gangrene.

This is a peculiar form of gangrene occasionally met with in feeble persons, often following various forms of disease; called also symmetrical gangrene. The tips of the ears and nose, and the toes and fingers are oftenest affected. Blisters appear upon the skin, followed by gangrene or sloughing of the parts, which is progressive and may completely destroy the parts. Fever may be present. Treatment must be the same as laid down for Gangrene (which see), and surgical operations, such as removal of toes or fingers, may be necessary. Recovery is the rule within six weeks.

RECTAL DISEASES.

Stricture. Polypus. Injuries.

Stricture.—Occasionally after ulceration of the mucous membrane of the rectum stricture may occur, characterized by constipation, straining, pain and the

passage of blood at stools, great relaxation of the anus and discharges the size of a rope. Hip baths, large injections of warm water, light diet and rest must precede the introduction of bougies to cause dilatation. Liver pills and injections of oil will make the discharges thin and prevent painful irritation.

Polypus.—Sometimes there will be jelly-like tumors form upon the walls of the rectum, especially in children. They may be cut off by scissors or by ligature, if pendant, and Monsell's solution applied.

Injuries caused by accident or by lodgement of sharp particles, inserted or swallowed, give great pain. Particles should be removed by forceps, or the fingers, oil being previously injected.

Piles or hæmorrhoids, fistulas and fissures are described elsewhere.

Red Gum.—This is sometimes spoken of as strophulus, and is characterized by the appearance of soft, red elevations on the gums, especially of infants. It is usually caused by stomach disturbances, and neutralizing cordial will prove an efficient remedy to correct the disorder.

RELAPSING FEVER.

Infective Fever from Poverty.

The causes of this difficulty seem to be similar to those of typhus fever—poor food and unhygienic surroundings. It is occasionally epidemic in Europe.

Symptoms.—These come on suddenly, a few days after exposure as a rule, though possibly in a few hours. The victim may be engaged in ordinary pursuits and be seized with dizziness and headache and a severe chill; this will be followed by high fever, gradually increasing until it possibly reaches 107°, having slight morning remission. The pulse may reach 140 or more

per minute, and respirations increase to 40 or more per minute. The tongue is thinly coated white, but may become dry and brown. Constipation is marked and the urine scanty. There may be some jaundice, and possibly nausea and vomiting. There is no eruption and the skin may be a little moist at times each day.

After about a week of high fever the symptoms suddenly abate. Abundant perspiration breaks out, the temperature, pulse and respirations fall to normal; discomfort ceases and there are free evacuations. Except a sense of great weakness the patient seems perfectly well, and remains so for five or six days, when a second paroxysm of fever, precisely like the first, occurs. This time it lasts about four days.

Several such paroxysmal periods may occur during the course of the disease, each followed by an intermission of the same duration as the paroxysm preceding it. Pain in the joints is common, and there may be serious complications, such as bronchitis, pneumonia, dropsy, abscess of the kidney or spleen, or paralysis. Erysipelas may follow during convalescence and eye troubles and falling out of the hair are not infrequent sequences.

Treatment.—Commence by opening the bowels by a large injection of warm water and the administration of liver pills. During the fever give frequent sponge baths of warm water containing borax. Administer every two hours, during wakefulness, tablespoonful doses of an infusion of pleurisy root, scullcap and ginger. Allow the patient to drink all the cold water desired. If the urine is scanty give every four hours ten drops of fluid extract of queen of the meadow in water. When there is a tendency to collapse, as sometimes happens, just before remission occurs, give compound spirits of lavender containing a little compound tincture of myrrh. Three times a day from the commencement of the attack on through convalescence the compound syrup of gentian (see formulas) should be used. The infusions should be discontinued during the remission and perfect rest insisted upon. Diet must be light and nourishing, and fresh air should be furnished.

Remittent Fever.—See the article on Ague.

Renal Colic.—*Kidney Colic.*—See article on Colic.

RHEUMATISM—ACUTE.

Inflammatory Rheumatism. Rheumatic Fever.

Exposures to dampness and cold, and fatigue of mind and body have been long regarded as causes of inflammatory rheumatism. Strains of muscles or ligaments also excite it. The difficulty is most common between fifteen and twenty-five years of age, though any one may suffer from it. Certain temperaments seem liable, giving rise to the belief that the disease is hereditary. One attack predisposes to other attacks; and the disease may run into the chronic form.

Symptoms.—Inflammatory rheumatism may develop very suddenly, though there are usually several preceding days of aching through the joints, and chilliness and possibly slight fever and sore throat. An ardent fever sets in, the temperature reaching 103° or 104° , the pulse is frequent and full, though often somewhat unsteady; the tongue is coated, and loss of appetite and constipation follow; the urine is diminished in quantity, high colored and acid; the surface is covered with perspiration of a decidedly sour character, often causing an unpleasant eruption like "prickly-heat." The face is flushed and puffy, and the whole body is tender, causing the patient to lie as quiet as possible.

Swelling, heat, redness and pain soon commence in the joints, and first one and then another joint is attacked, the distress shifting to the various portions of the body and causing intense suffering.

A first attack may last several weeks, though subsequent attacks usually subside within ten days. The great pain and profuse perspiration prove very exhausting and often render convalescence very tedious. Complications are liable to arise, such as pneumonia, pleurisy, meningitis and inflammation of the kidneys, or of the heart, or its valves, the heart trouble often

causing death. When the brain is involved it is termed cerebral rheumatism, and often proves fatal.

Treatment.—In all cases bear in mind the patient's acute suffering and distress upon being handled, and arrange the bed and room accordingly, and provide a strong and skillful nurse. A flannel night-gown is the proper garment to be worn; and blankets instead of sheets should be used. Bathe the joints and affected parts every three hours with the following liniment: Tincture of black cohosh and lobelia, each two ounces; essence of ginger, one-half ounce, and bi-carbonate of potash, one drachm. Cover the parts with absorbent cotton kept in place by loose bandages.

Allow all the cold water desired, provided it is pure. Distilled water containing twenty grains of citrate of lithia to the gallon is best. If the patient can endure the handling, warm sponge baths are beneficial. Cold water applications will allay the inflammation, but are liable to produce stiffening of the joints. Keep the bowels open by the use of liver pills, and if the kidneys do not act freely enough allow drinks of infusion of peach leaves.

As a tonic there may be given every four hours one grain each of salicin, capsicum and sulphate of hydrastia in capsule. Should the heart show signs of weakness or distress the stimulating liniment should be briskly rubbed over the chest and infusion of goldenseal and capsicum administered internally. Convalescence requires light diet, abstinence from meats, quietude and an equable temperature.

RHEUMATISM—CHRONIC.

Arthritis.

This form of rheumatism is peculiarly liable to be "transmitted," that is, to occur in families of certain organizations. It is rarely manifest until after middle life, and attacks are excited by exposures to cold and dampness and physical or mental fatigue. Often it follows acute rheumatism.

Symptoms.—The chief characteristic of chronic rheumatism is pain in the joints, usually the larger joints. Swelling and redness seldom occur and fever is rarely manifested. The pain in the joints is intensified by pressure or movement, the affected joints enlarge and stiffen, or seem to crack while moving, on account of absence of sufficient lubrication.

Various degrees of suffering are experienced through chronic rheumatism. There may be simply pain experienced before and during storms, and subsiding afterward, or there may be frequent attacks of five or six days' duration, or there may be almost constant pain, amounting to distress sufficient to undermine the constitution. The joints, large or small, may be permanently stiffened and enlarged, the muscles may be shrunk, and altogether permanent invalidism ensue, accompanied by deformity. Other parts of the body, such as the heart, lungs and brain, are rarely involved.

Treatment.—Plain and nourishing diet, an abundance of pure water and dry and hygienic surroundings are most beneficial. Vapor baths, once a week, are excellent. Rubbing the affected parts with skunk oil or cocoanut oil containing a little oils of lobelia and origanum will be found useful. The bowels must be kept open, and the kidneys may be aided by ten-drop doses of dwarf elder given in water every six hours. Poke berries, American sarsaparilla and prickly ash are excellent. The stomach soon tires of medicines, and dependence must be placed upon baths, diet and hygienic surroundings.

Rheumatism.—*Gonorrheal.*—See the section on Diseases of the Generative Organs.

RHEUMATISM—MUSCULAR.

Lumbago. Myalgia.

This form of rheumatism is usually caused by suddenly cooling the body while perspiring, standing in

drafts, etc. Adults are the most frequent sufferers, although small children are sometimes attacked, and some persons are peculiarly liable to it.

Symptoms.—The chief characteristic is pain and tenderness of the muscles, shifting in its nature, and affecting first one and then another muscle. Fever is usually absent. Acute attacks may last but a few days, while the chronic form may possibly continue for months involving, perhaps, the heart, lungs or stomach.

Treatment.—Avoidance of over-heating, exposure to drafts, and imprudencies must be studied. Flannel should be worn by those subject to attacks. The liniment mentioned for acute rheumatism should be used, and the bowels must be kept open. Citrate of lithia, one or two grains in a glass of water half an hour after meals, is excellent. Sufferers from muscular rheumatism should not use tea, coffee or alcoholic liquors.

RHEUMATISM—NODULAR.

Rheumatic Swellings of the Joints.

This is a form of chronic rheumatism characterized by deformity of the joints, usually commencing with the fingers or toes and later involving the larger joints. All sorts of unnatural positions may be permanently assumed—the fingers crooked, the leg flexed or twisted, and even the spine possibly affected. Often in the aged the hip joint is the one involved. Pain and tingling sensations are usually experienced, and at first there may be some swelling and tenderness.

Treatment.—In some cases great relaxation may be secured by fomentations of lobelia and then force used to break up adhesions. The liniment named for acute rheumatism will best give relief, and the treatment of chronic rheumatism should be pursued. A warm and dry climate is best for sufferers from nodular rheuma-

tism; and the diet must be of the most nourishing character. Compound syrup of *Stillingia* (see formulas) is of great value; though the stomach must not be over-crowded.

Rhinitis.—This is inflammation of the lining membrane of the nose. See the article on Catarrh.

Rhinoliths.—Calcareous or earthy crusts which occasionally form in the passages of the nose, adherent to the nasal walls.

Rhinorrhea.—This is a profuse muco-purulent discharge from the nose frequently occurring during nasal catarrh. See the article on Catarrh.

RICKETS.

Infantile Rachitis.

Children during teething may be affected by insufficient development of the bony structure, characterized by softening of the bones and consequent deformities, sometimes of a frightful nature. Children whose parents are feeble or extremely young are most liable to rickets, and the trouble may be developed before birth.

Symptoms.—Disorders of the stomach, vomiting and diarrhœa are early signs. Emaciation commences, while at the same time the abdomen grows prominent and the teeth do not develop. There is fretfulness, great restlessness at night, sweating about the head and tenderness over the body.

Nervous troubles often arise and the child is extremely liable to severe colds. The deformities usually commence during the second year and may be very diverse. The jaws may be contorted, the forehead enlarged and the face small, and the whole head may appear as thrown forward. Dropsy of the brain (*hydrocephalis*) may occur and the head become enormous. Pigeon-breast, spinal curvatures, knock-knees,

bow-legs. distortions of the hips or shoulders, enlarged ankles and wrists, and many other deformities may develop. The heart may become enlarged (hypertrophy) and perhaps displaced, and the lungs may become impaired.

Treatment.—It is imperative that the first symptoms of the disease should be recognized, that action may be taken early. If cutting the first teeth is delayed beyond the tenth month it is a bad sign, especially when accompanied by perspiration of the head and restlessness at night and frequent diarrhœa. Children showing such signs should be given plenty of fresh air out of doors, and daily salt water baths with brisk rubbings; and kept off the feet.

The diet becomes important. Strained, boiled oatmeal, to which a little lime water may be added, is excellent. Starchy foods and sugars must be avoided. Children of eighteen months or over may be given broths, soft boiled eggs, bean soup and fish; egg-nog without alcohol and thickly-buttered whole-wheat bread may be given.

Medicine should be used sparingly, no matter how harmless it may be in character. The diarrhœa may be checked by equal parts of wild cherry syrup and neutralizing cordial. Older children may be given tartrate of iron and potassa in solution of citric acid, before meals. Peptenzyme after meals is also beneficial, and greatly aids digestion. Malted Milk cannot be too highly recommended for use in this difficulty, and to the water given should be added a little lime water. Plenty of sunlight in the living and sleeping rooms is imperative, and dampness must be avoided.

RING WORM.

Favus.

This is also called *tinea tonsurans*. It is a growth upon the skin caused by an organism called *trichophyton tonsurans*. It is oftenest met with in children, and commences as a small and slightly raised red patch on the scalp, which causes great itching. The

patch enlarges and forms a ring, while the redness subsides, except on the margins, which are often covered with small blisters. The hair at such places dies and breaks off and sometimes hairless patches are developed. Ring worm may appear on the face or upper part of the body.

Treatment.—Fresh air and very nourishing food and hygienic surroundings are important. The compound gentian syrup will be an excellent tonic. Shave or pull out the hairs upon the ring worm of the scalp and apply a solution of hyposulphite of soda. Wash the scalp with tar-soap and borax. Each morning moisten the spot with a strong solution of borax and then apply sulphurous acid solution. Ring worm is contagious.

Rodent Ulcer.—This is frequently spoken of as a form of epithelioma. It begins as a pale tubercle on the skin, upon the upper part of the face, and may gradually develop for years, the edges becoming raised and hard and the inner surface red and raw or glazed. There is no special pain and the glands are not involved and the health is not impaired as in cancer. Treatment should consist in keeping the health in good condition by hygienic regulations and removing the ulcer by operation as early as possible

Rosacea.—See the article on Acne.

Rose.—See the article on Erysipelas.

Rose Cold.—See the article on Hay Fever.

Roseola.—*Rotheln.*—*Rubella.*—See the article on Fevers (Eruptive)—German Measles.

RUMINATION.

Regurgitation of Food.

This is a peculiar condition in which the sufferer regurgitates his food from the stomach to the mouth,

and after masticating it a second time swallows it. Children are the most frequent sufferers. The peculiarity may be congenital or it may be the result of stomach, or intestinal troubles, or nervous disorders, or may be a perverse habit or be excited by improper and insufficient food.

Treatment includes mental influences to overcome the habit by force of will, and strict adherence to hygienic rules of health and diet. Ten drop doses of fluid extract of cramp bark, taken in water, just before meals will be found beneficial.

RUPIA.

Foul Scabs and Ulcers.

This disease is usually a consequence of syphilis or scrofula. It is characterized by the formation of hard, dark scabs on the skin, caused by drying up of disagreeable pustules. These scabs may be very numerous and vary in size from that of a bean to that of an oyster shell. Beneath the crusts will be found foul ulcers.

Treatment.—Apply a poultice of flaxseed sprinkled with ginger. When the crusts are removed, wash out the ulcers thoroughly with borax water containing tincture of myrrh and then apply a plaster of black salve (see formulas). The cause of the ulcers must be removed by appropriate treatment.

SALIVATION.

Mercurialization. Ptyalismus.

This is a distressing difficulty of the mouth, caused by the use of mercury or its various preparations. It was formerly quite common, when calomel was in gen-

eral use. But an outraged people rebelled against the barbarous practices of the "medical profession." Lately mercurial preparations, to destroy bacteria, are again being used, chiefly in the form of corrosive sublimate, and salivation with its horrors is again met with.

Symptoms.—The salivary glands at the angle of the jaws and those situated further forward and under the tongue become very tender, swollen and soft, and the secretion of saliva is abundant, and the mouth becomes full of it to overflowing. The tongue swells considerably and grows soft and extremely tender. It grows dark red and covered with a sticky, white substance, which in severe cases dries into a foul crust. The tongue may be enormous and fill the mouth and have numerous bloody fissures, and ulceration may set in. The face often becomes swollen and dark, eating and talking are impossible, and great distress is apparent.

Treatment.—The severe symptoms seldom last over five days. Relief is obtained by sucking pieces of ice, and the mouth washed out with witch hazel extract and borax solution. Sometimes the tongue and gums must be lanced to allow the blood and serum to escape. Ulcerated conditions require a wash of golden-seal and tincture of myrrh. Strength must be sustained by the use of nourishing diet and hygienic surroundings and the bowels regulated. Syrup of wild cherry containing fluid extract of goldenseal is an excellent tonic.

Sarcoma.—See the article on Tumors.

Scabies.—See the article on Itch.

Scald-Head.—An annoying form of eczema peculiar to young children. See the article on Eczema.

Scarlatina.—*Scarlet Fever.*—This disease is fully considered in the article on Fevers (Eruptive).

SCIATICA.

Sciatic Neuralgia.

This is a neuralgia of the sciatic nerve, which is the largest nerve of the body and runs from the back of the hip-joint down the back of the thigh. The whole nerve may be affected, giving most intense pain in the buttock or the whole length of the leg and outer portion of the foot. In severe cases there will be fever and thirst, constipation, furred tongue and hard and frequent pulse. Exhaustion follows the sleeplessness caused by the almost incessant pain.

Chronic cases of sciatica give tingling sensations and occasional numbness and cramps, and in course of time the muscles of the limb diminish in size, and lameness and inability to keep the limb warm are common. A person who has once suffered from acute sciatica is extremely liable to have frequent attacks. Syphilis, scrofula, mercurial and alcoholic or malarial poisoning render persons more susceptible to sciatica. Among the exciting causes of the difficulty may be mentioned exposure to cold and dampness, hardened accumulations in the rectum, a shock to the spine, a sprain of the hip, knee or ankle joint, physical strain of any kind, pregnancy and various womb troubles. An acute attack rarely lasts longer than a week, and the times of recurrence may be frequent or prolonged for years.

Treatment.—Empty the rectum by injections, and use liver pills to keep the bowels naturally free. Locally, apply a liniment consisting of tinctures of lobelia, mullein and lady slipper, each two ounces, and tincture of capsicum, four drachms. Wrap the affected limb in cotton and enjoin absolute quietude. Let the diet be extremely light. The predisposing cause must be ascertained and as soon as the attack has abated treatment must be commenced and persisted in according to the nature of the constitutional difficulty. The stomach will in nearly all cases be found overworked and deranged in some manner. Persons subject to sciatica cannot too carefully obey the rules of hygiene. They must avoid excesses and bad habits.

SCROFULA.

Struma. Tubercle.

There is no specific condition which may be termed scrofula. It is a peculiarity of the constitution which makes the person especially liable to inflammatory swellings of the lymphatic glands and to inflammations of the skin and mucous membranes of the head.

The causes of scrofula, or rather of the peculiarity known as the scrofulous diathesis, may be mentioned as improper food, unhygienic surroundings and heredity. Of these, heredity is the most important. Scrofulous parents, or those suffering from consumption, or syphilis, or very youthful or aged parents, or those related by blood, are extremely liable to have scrofulous offspring. Children develop scrofula more frequently than adults, and it may be the antecedent of serious tuberculous or rheumatic troubles in later life.

Symptoms.—Glandular swellings, especially about the neck, groins and arm-pits, which swellings may develop slowly, or may become inflamed and ulcerate and discharge very disagreeably. There may be foul discharges from the ears. Occasionally the bones become involved, especially those of the hip, causing great suffering and deformity.

Persons of scrofulous tendencies usually have acid perspiration and discharges from the bowels, and considerable sediment from urates in the urine. Impaired digestion and loss of appetite, troubles of vision and "sore eyes" (inflammations of the conjunctiva), are common, flushes on the cheeks, pearly eye-balls, debility and slow emaciation are accompaniments of scrofula. Consumption may be preceded by all the symptoms of scrofula. And persons of scrofulous tendencies should exercise the greatest care against exposures to cold; and lung troubles, no matter how trifling, should be promptly treated.

Treatment.—Fresh air in abundance, a dry atmosphere in living and sleeping rooms, plenty of sunlight, cleanliness, frequent bathing, an equable temperature,

warm clothing, avoidance of fats, and especially pork, as food, and a most nutritious diet, are matters to be considered indispensable in the management of scrofula. The diet should be composed largely of vegetables; the appetite must be encouraged, and digestion aided. Peptenzyme elixir, a teaspoonful after each meal, is most excellent. If there is constipation the liver pills must be employed.

To aid in carrying off the poisonous material in the system an alterative will be found useful and a tonic should be added. Fluid extract of gentian, one ounce, and compound syrup of yellow dock, seven ounces (see formulas), will be found unexcelled taken in teaspoonful doses between meals. Many months may be required to effect a restoration to health; and there is always greater susceptibility to disease after an attack of scrofula.

SCROFULOUS ULCERS.

Ankle Ulceration.

These are very troublesome and exhaustive sores which occur about the ankles of persons of the scrofulous diathesis under rare circumstances. Their first appearance is characterized by bluish swellings, followed by several open sores which run together and discharge offensive and thin ulcerative matter. They occasion great debility and lameness.

Treatment.—The constitutional treatment advised for scrofula must be pushed vigorously, and fresh air, hygienic surroundings and most nourishing food become imperative. Locally, there should be applied a poultice of flax-seed containing beth-root and pulverized myrrh, and kept moist by glycerine. Such poultices should be worn six or eight hours out of the twenty-four, and upon each removal, the sore should be thoroughly cleansed with borax solution. Compound tincture of myrrh should be frequently applied about the puffy edges of the sores. Treatment should be persistent.

SCURVY.

Scorbutus. Sea Scurvy.

Improper diet is the great cause of scurvy, and especially does the absence of vegetable acids tend to produce the disease. It was formerly much more common than at present, on account of inability to make provision for proper nourishment for armies and for sailors, and for farm families when crops failed. Salted meats eaten in excess are extremely liable to produce scurvy in those who are exposed to cold and wet and fatigue, or those who are weakened by disease, especially by malaria.

Symptoms.—Premonitory signs will be general weakness and progressive emaciation and anæmia, which conditions continue throughout the attack, which may last for several months, or may possibly (though rarely) result fatally within three or four weeks. A very pronounced symptom is the spongy and swollen condition of the gums. The teeth become loosened and may fall out, and foul ulceration may follow. The gums become blue and bleed very easily. Hemorrhages from the skin, chiefly upon the legs, are frequent, especially upon pressure. "Blood blisters" are not infrequent and may burst and become gangrenous spots. Hemorrhages from the mucous surfaces are common. The urine is scanty and contains albumen. Dysentery and pneumonia may be complications.

Treatment.—Supply an abundance of fresh, dry air; avoid fatigue and furnish a diet of fresh meat and an abundance of vegetables. Sour apples, lemons and limes are especially good. No medicines are needed beyond possible astringent washes for the gums such as a vinegar tincture of bayberry and myrrh. Treat gangrenous spots as ordinary gangrene. Prophylaxis will prove most efficient. Scurvy is a preventable disease, and always curable if undertaken before degeneration commences; but very old persons, or chronic cases of long standing, offer very little ground for encouragement.

Seborrhea.—This is a skin affection frequent in infancy, characterized by the excessive secretion of oil on the skin and accumulation of scales of epithelium. Treatment is simple and consists in washing the skin with warm borax water, thoroughly drying, and applying a mixture of equal parts of witch hazel extract and rose water.

Septicemia.—*Pyemia.*—This is a dangerous condition caused by pus from wounds, or abscesses or ulcers entering the circulation. See the article on Blood Poisoning.

SHINGLES.

Herpes Zona.

This is an annoying difficulty usually occurring in the winter time and caused by various circumstances. Unhygienic surroundings, unwholesome food, over-eating and under-eating, exposures, nervous troubles and other derangements often bring about shingles, a form of herpes.

Symptoms.—The disease is characterized by the appearance of numerous water blisters half around the middle of the body commencing at the spine. These blisters tingle and burn and excite considerable scratching. They may come in successive crops and gradually dry up and leave scaly scabs. In nearly all cases there will be constipation, indigestion, neuralgia and slight feverishness.

Treatment.—Locally dust the parts with powdered starch and goldenseal, or apply witch hazel extract and spirits of camphor. Use the compound syrup of gentian containing a little fluid extract of cascara. Let the diet be light, bathe the body frequently and change the underclothing often. Be sure that the bowels move freely each day, and provide an abundance of fresh air in the sleeping room, and out-door exercise during the day. An attack of shingles may

last two or three weeks. The disease of itself is never fatal.

Ship Fever.—See article on Typhus Fever.

Short-Sightedness.—See section on Diseases of the Eye.

Sick Headache.—See article on Headache.

Singultus.—See article on Whooping Cough.

SINUS.

Unnatural Opening. Fistula.

This is a narrow canal, opening on the surface and leading to a seat of ulceration or of secretion of fluids. Sometimes the natural secretions of various organs, such as the stomach and gall bladder, have their exit through these unnatural canals or sinuses. Usually, though, they are the means of escape of degenerate fluids caused by ulceration of decayed bones or of abscesses. In treating them it is first necessary to ascertain the cause and, if possible, remove it. The sinus should then be frequently and thoroughly cleansed with solution of borax and then injected with solution of tannic acid. A drainage tube may be inserted and withdrawn just a little each day as healing progresses. A weak solution of caustic potash may be necessary to start the healing process.

Sleeplessness.—See article on Insomnia.

Sloughing.—*Mortification.*—The breaking down of tissues; fully considered in the article on Gangrene.

Small-Pox.—See the article on Fevers (Eruptive).

Snake-Bite.—See the article on Poisoning.

Spasms.—See the article on Convulsions.

Spermatorrhœa.—This is a condition of exhaustion and nervous debility caused by the unnatural loss of semen. See the section on Diseases of the Generative Organs.

SPINAL CURVATURE.

Potts' Disease.

This sad affliction usually occurs in childhood, and is the result of caries or destruction of parts of the spinal vertebræ. Its first symptom is a prominence of the spinal processes. Pain may be absent, and the deformity may be so marked as to constitute "hump-back." Paraplegia (which see) frequently follows. This form of spinal curvature does not often prove fatal, although incurable.

Treatment.—A most nourishing diet and hygienic surroundings are imperative. Freedom from all exertion and worry must be secured. The application of a plaster jacket is often resorted to, and in the early stages frequent suspension of a nature to stretch the spine by the weight of the body will be found useful. Severe cases require rest in bed. Medicines are of little avail, although scullcap has proven a valuable tonic to the spinal nerves.

Spinal Meningitis.—See the article on Fever—Cerebro-Spinal.

SPLEEN—AMYLOID.

Waxy or Lardaceous Spleen.

Like amyloid degeneration of the liver that of the spleen may be the result of suppuration, exhaustion of wasting diseases, malarial poisoning, syphilis, etc. It should be suspected when enlargement of the spleen follows any of the conditions mentioned. The treatment embraces hygienic measures, the free use of natural iron water and the administration of a positive

alterative, such as the compound syrup of *Stillingia* (see formulas). Recovery cannot be hoped for in pronounced cases.

Splenic Cancer.—This is usually a sequence of cancer of the liver or stomach, and must be treated as carcinoma of other organs.

SPLEEN ENLARGEMENT—ACUTE.

Splenic Hypertrophy.

The spleen is a ductless gland situated in the left and upper portion of the abdominal cavity. From various causes the organ may become greatly enlarged. Among the causes of acute enlargement may be mentioned injuries, obstructions to circulation by diseases of the heart, or lungs or liver, and infective diseases.

Symptoms.—As a rule there will be pain in the left side, extending to the shoulder, increased by coughing and lying upon the left side. The enlarged spleen may usually be distinctly felt as a tumor.

Treatment.—There is no call for special medication. If caused by acute infective disease it will disappear with that disease. Severe pain may require outward stimulating applications, and possibly the administration of nervines.

SPLEEN ENLARGEMENT—CHRONIC.

Ague Cake.

This may be the result of acute enlargement; but is usually developed during the course of some chronic disease, most commonly malarial difficulties. The organ may become fifteen or twenty times larger than normal; and may, after years of suffering, cause death by unnatural pressure and the exhaustion of the sufferer.

Symptoms.—Pain in the left side, great paleness, cachexia, shortness of breath and palpitation. The enlarged organ may be distinctly felt by manipulation.

Treatment.—If possible the patient should be removed to a high and dry locality. Internally use the following eight and morning: Fluid extracts of butternut and Peruvian bark, each two drachms, in four ounces of syrup of ginger. Stimulating liniment may be applied; and vapor baths should be frequently employed. Recovery may be gradual, some cases lasting for years.

SPLEEN—INFLAMMATION.

Splenitis.

This difficulty may be secondary to inflammation of other organs, such as the stomach and lungs, or it may be caused directly by injuries. An abscess of the spleen almost invariably follows, giving serious results.

Symptoms.—As a rule the disease will be ushered in by shivering, followed by high fever and hot and dry skin, nausea, possibly vomiting and constipation. The urine is scanty and high colored, and there is great thirst. The pulse is hard and frequent at first, though it may become very feeble and exhausting diarrhœa may set in. There is great pain in the left side, extending to the shoulder, and pressure upon the ribs of that side causes increased pain. Coughing is usually persistent.

A fluctuating tumor may be recognized. Occasionally splenic abscess is formed and results fatally before the true nature of the difficulty is determined.

Treatment.—Hygienic surroundings and light nourishing diet are of the utmost importance. The bowels must be kept open, but no harsh means should be employed. Frequent vapor baths should be used to keep the skin free and its secretory glands active. A tea-

spoonful of the compound gentian syrup (see formulas) given after each meal will be a sufficient tonic.

Should there be evidences of active suppuration, such as frequent shiverings and hot flushes, and throbbing pain in the left side, a small amount of compound tincture of myrrh may be added. The butternut syrup (see formulas), taken at bedtime, will keep the bowels sufficiently open. Stimulating liniment should be applied outwardly night and morning. Frequently surgical operations by a skillful surgeon will be required to save life.

SPLEEN—WANDERING.

Floating Spleen.

Occasionally, on account of relaxation of the attachments of the spleen, that organ may leave its natural position and descend into the cavity of the pelvis or fall upon the right side, or any other locality favored by the position the patient may assume. There may be no serious symptoms beyond a sense of discomfort and the recognition of the position of the organ by manipulation. The difficulty is sometimes overcome by bandages and the use of tonics and hygienic surrounding, though removal of the organ by surgical operation may be absolutely necessary.

Splenic Rupture.—Sometimes during enlargement of the spleen, the organ may develop so rapidly that its sac or capsule bursts, causing internal hemorrhage or peritonitis and speedy death. Recovery has taken place in rare instances, but medical treatment is unavailing.

Spotted Fever.—See Fever—Cerebro-Spinal.

SPRAINS.

Straining of Ligaments.

By falling, twisting the foot or limbs, and by other accidental injuries, the ligaments about various joints

may be suddenly stretched, constituting a sprain. The pain is usually severe and sharp, and swelling and often redness of the parts follow. A severe pain of the ankle joint may cause lameness for several days, and if neglected, may result in permanent trouble.

Treatment.—If commenced immediately, the best treatment consists in applications of cold water, running water being preferable. If there is delay, and inflammation has set in, with redness and severe pain, apply cloths saturated with hot infusion of lobelia. After relief has been secured, the parts may be frequently bathed with tincture of calendula or witch hazel extract. Under no circumstances should the affected joint be used before complete recovery is assured.

St. Anthony's Evil.—See the article on Erysipelas.

Sterility.—*Barrenness.*—This is inability in women to conceive. It may be caused by various conditions, and is fully considered in the section on Diseases of Women.

Men may likewise be sterile and unable to procreate. Such cases are considered in the section on Diseases of the Generative Organs.

STOMACH HEMORRHAGE.

Bloody Vomiting.

Causes.—These may be mentioned as accidental injuries, or swallowing of sharp substances, or strong acids or alkalies, perforation of the stomach by abscesses of neighboring organs, the result of diseases of the blood vessels, such as obstruction of the veins from liver troubles; diseases with hemorrhagic tendencies, such as scurvy and purpura; and occasionally hysterical convulsions, and malaria and other infective diseases.

Symptoms.—Usually bleeding from the stomach will occasion vomiting of clots of dark blood and the passage of very dark feces from the bowels. When the

hemorrhage is extensive the blood evacuated will be bright red, and the patient will experience a sense of warmth in the stomach. Nausea and vomiting soon follow, and after the blood has been expelled there will be great weakness and paleness.

Hemorrhage from the stomach is rarely fatal unless some large artery is involved, as in aneurism, or if perforation has taken place by abscesses existing elsewhere. Nursing children may vomit blood sucked in from the mother's excoriated nipples, and adults may occasionally have blood in the stomach from catarrhal conditions, nose-bleed, or bleeding teeth.

Treatment.—Place the patient in a comfortable position and enjoin absolute quiet. Administer every five or ten minutes cold infusion of kino, tannic acid or bayberry bark in teaspoonful doses. Allow the patient to drink cold milk and to eat little pieces of ice. Place a cold wet cloth over the stomach and apply hot irons to the feet, or bathe the hands and feet in hot infusion of red pepper and mustard.

Raspberry leaf tea may be used for several days after an attack. The diet must be light and exertion avoided. The mind should be kept cheerful. If constipation exists, move the bowels by injections. During convalescence, give Nerve Tonic (see formulas). Stomach hemorrhages are usually sour with gastric juice, and may thus be distinguished from hemorrhages from the lungs.

Stomatitis.—See the articles on Canker and Thrush.

Stone in the Bladder.—See the article on Calculi.

Strabismus.—*Cross-Eyes.*—See section on Diseases of the Eyes.

STRANGUARY.

Retention of Urine.

This is inability to pass the urine which has accumulated in the bladder, and must not be confounded

with suppression of urine. Stranguary may be partial or complete. In the former case a small amount of urine may be voided with difficulty; while in complete stranguary there is no urine voided. The distended bladder causes great suffering, and in occasional instances it has been known to burst, especially should the sufferer fall. Retention is caused by weakness of the bladder, induced by putting off urination from delicacy or other reasons; and often it is caused by irritating substances, such as Spanish flies.

Treatment.—Put hot, wet cloths about the genital organs and the lower part of the abdomen, or take a hot sitz bath. If these measures fail the catheter must be used three or four times a day. Sometimes a large dose of salts will accomplish the desired result. Excesses and exposures to cold must be guarded against.

Stricture.—See section on Diseases of the Generative Organs.

Strophulus.—This is an eruptive disease of childhood, characterized by bright-red spots upon the face and arms, usually brought about by being overheated by too much clothing, and exaggerated by indigestion. Treatment is simple and consists of regulating the clothing, giving frequent baths, allowing light diet and correcting acidity of the stomach by neutralizing cordial.

STUNNING.

Shock.

By falls or blows upon the head a person may be stunned and become unconscious, or perhaps grow dizzy and faint and become cold and pale.

Treatment.—Place the patient on the back and apply outward warmth and stimulation, such as stimulating liniment over the ankles and wrists and neck, and hot

bricks to the feet, thighs and arm-pits. Rub the limbs briskly. Administer compound tincture of myrrh (a few drops in warm water) or essence of ginger or infusion of composition if the patient can swallow, otherwise give an injection of ginger to the bowels, and enjoin perfect quiet.

Shock.—Severe injuries or even great fright, especially to elderly or feeble persons, may produce shock. When profound all the signs of collapse will be present—stupor, unconsciousness, almost imperceptible pulse, slow breathing and cold and clammy surface. There may be involuntary discharges from the bowels and bladder, and vomiting when reaction sets in, or hiccough before death.

Treatment for shock is similar to that for stunning, only more vigorous. An abundance of fresh air must be provided, though never allow the patient to be chilled. Injections of ginger or even composition, or capsicum infusion may need to be frequently repeated. Reaction must be procured as speedily as possible. The first sign of reaction may be vomiting, after which the lips and face may show some color.

When consciousness is restored stimulation should be given by the mouth. If the urine is not freely voided, it should be drawn off by the catheter. Absolute quietude and comfortable warmth must be sustained for a few days after profound shock.

When a person has had a very severe injury, such as a fall from a great height, and shows no signs whatever of shock, but is of pale countenance and anxious to talk, he is extremely liable to die suddenly within one or two days.

St. Vitus' Dance.—See the article on Chorea.

SUNSTROKE.

Heat Stroke. Thermic Fever.

Serious and often fatal results follow exposure to heat or to the sun's rays. A damp atmosphere, excess-

ive labor, mental excitement, diseased conditions and indulgence in alcoholic liquors favor sun stroke or heat stroke.

Symptoms.—Usually sunstroke is preceded by disorders of the system, such as constipation, scanty urine and diminished perspiration, indigestion, loss of appetite, drowsiness, headache and general indisposition.

The attack proper comes on suddenly. Mild cases include paleness, dizziness and faintness, and perhaps the victim falls unconscious in a faint. The heart action is weak and the pulse may be lost. There may be pain about the heart and difficult breathing, and the surface is usually cold and deathly pale.

Treatment of Mild Cases.—Loosen the clothing and place the patient upon the back and treat as for an ordinary fainting spell. Place hartshorn or smelling salts to the nostrils, sprinkle a little cold water in the face, and when consciousness is regained administer a diffusive stimulant, such as compound spirits of lavender. The patient should be removed to a quiet place and great care must be exercised during convalescence, which may be tedious.

Severe Cases.—The victim suddenly loses consciousness and falls. The face is dark red or purplish and the surface of the whole body is hot, the temperature possibly reaching 110° . Usually the skin is dry, though there may be perspiration. The pulse is frequent and full, but soon fails. There may be vomiting; and convulsions are not uncommon, followed by stupor, heavy breathing, dilated pupils and the escape of frothy mucus from the mouth. Such conditions may possibly last an hour, and unless relieved by proper measures will be followed by exhaustion, cold extremities, feeble and irregular pulse and death.

Treatment.—Disturb the patient as little as possible, place him in the shade and allow an abundance of air; but do not remove him to his home or elsewhere until favorable signs are apparent. Bathe the head, neck and chest with warm water, and thus induce perspira-

tion and relieve the heart and lungs from blood pressure, which produces fatal results. The ordinary method of applying ice or cold water, favors congestion and death. Use stimulating liniment or hot infusions of red pepper or ginger on the spine and extremities and over the stomach.

Such a method as mentioned above will result in recovery to most victims of sunstroke. Nearly all who have once suffered are for years extremely sensitive to heat and subject to severe headaches, and should take the greatest precautions against excesses of all kinds.

Syncope.—See article on Fainting.

SYNOVITIS.

Inflammation of the Joints.

Blows, falls, deep cuts or punctures admitting air, and other causes, may result in an inflammation of the lining membrane of the joint. There will be most intense pain upon the slightest use of the joint, and the region about it will be greatly swollen and extremely tender. If the knee-joint is affected, moving the knee-cap will give a grating sensation. Sometimes synovitis gives general disturbance throughout the system such as fever, constipation, etc.

Treatment.—The most speedy relief is obtained by applying a hot poultice of mullein leaves sprinkled over with powdered lobelia seeds and a little ginger. The patient must be placed in bed and the joint rendered immovable by bandages. As poultices cannot be maintained without great inconvenience, the joint may be covered with cotton and bandaged, and the cotton frequently saturated without removal with equal parts of tinctures of lobelia and mullein.

Syphilis.—See section on Diseases of the Generative Organs.

TABES MESENTERICA.**Tuberculosis of Mesenteric Glands.**

This occurs in children, and is rarely recognized until well developed, and the enlargement of the glands can be distinguished by manipulation. There is pain in the abdomen, emaciation of the body and enlargement of the abdomen, indigestion, irregular condition of the bowels and enlargement of veins. There may be dropsy, or symptoms of peritonitis and hectic fever. Death usually follows within a few months, preceded by great debility, profuse perspiration and general symptoms of exhaustion.

Treatment.—Keep the bowels regulated by neutralizing cordial if disposed to diarrhœa, or by aromatic cascara if inclined to constipation. Aid intestinal digestion by tartrate of iron and potassa, two-grain capsules after meals. Give a most nourishing diet, allow abundance of raw eggs and milk. Provide fresh air and perfect hygienic surroundings.

Tabes Dorsalis.—See the article on Ataxy (Locomotor).

Tachycardia.—See the article on Heart Palpitation.

Tape-Worm.—See the article on Worms.

TEETHING.**Dentition.**

Infants usually commence to cut their teeth during the seventh month, some earlier and others later. The two lower stomach teeth are the first to make their appearance, soon followed by the upper stomach teeth. With various periods of intermission, the teeth continue to make their appearance until the end of the third year. Too early cutting of teeth points to possible tuberculous disease in the future, or immediate

nervous disturbances, while too great delay in cutting teeth should lead to a suspicion of weakness of the general system and possible rickets, and too great care cannot be exercised in building up the health and avoiding excesses of all kinds in such children.

Throughout the period of dentition there is liability to irregularities of the stomach and bowels, feverishness and restlessness. The neutralizing cordial containing a little lady slipper is a most excellent corrective. Avoid soothing syrups and all other opium preparations. Greatly swollen gums should be lanced by cross incisions. See the article on Management of Children.

Tetanus.—See the article on Lockjaw.

TETANY.

Spasmodic Contractions of the Muscles.

This is a manifestation of an ill-defined difficulty of the spinal cord, temporary in its character and very rarely fatal. It consists in spasmodic contractions of various sets of muscles upon one or the other side of the body. The fingers or toes may become fixed in one position for several minutes, and in rare cases remain so for hours or even days. The muscles of the face, eyes, tongue, throat, diaphragm or limbs may be involved. Cold and nervous excitement are often causes. Inmates of young ladies' seminaries may be affected in this manner in numbers, as though epidemic, probably from indigestion, over-study, nervous strain and insufficient out-door exercise.

Treatment.—The cause must in all cases be ascertained and removed by appropriate measures. Worms not infrequently cause the difficulty in children. Rheumatism, dyspepsia and suppressed menstruation are common causes in adults. Light currents of electricity along the spine, with proper hygienic measures are excellent between attacks, accompanying appropriate treatment for removing the underlying cause.

Tetter.—See the article on Eczema.

THOMSEN'S DISEASE.

Congenital Myotonia.

This is characterized by a persistent contraction of voluntary muscles, or rather an inability to quickly relax muscles when voluntarily contracted; for instance, should a sufferer from Thomsen's disease grasp a cane he would be unable to release his hold at once if he should so desire, or he would be unable to open his mouth until a few seconds after he made the first effort to do so. Disturbances throughout the system and exposures to heat or cold or physical or mental exhaustion aggravate the difficulty.

Medication is useless, but relief is obtained by keeping the whole system in good order, by careful diet, out-door exercise, frequent baths and general hygiene. The disease is persistent but never fatal.

Throat Cutting.—This is usually a self-inflicted injury. If large vessels have been severed, death is speedy. Otherwise recovery usually follows prompt action. Arrest bleeding with hot water, bundles of cob-webs or perchloride of iron, remove clots from the air passages, put one bandage around the head and another about the chest and connect them so as to keep the chin down and the edges of the wound together; dress with antiseptics; feed soft and nourishing foods, given by a tube if the gullet is injured and swallowing difficult. Watch carefully; stitches will seldom be required. Strips of adhesive plaster may be used to advantage.

THRUSH.

Nursing Sore Mouth. Sprue.

The technical name for this disease is Stomatomy-cosis Oidica. It is an affection common to very young nursing children or rather those being reared "on the

bottle." Sour milk, stale foods, dirty bottles and improper care favor its development. A parasite called *oidium albicans* is supposed, by its growth, to cause the difficulty.

Symptoms.—Small curd-like specks appear over the tongue and on the inside of the cheeks; they rapidly increase in size and number, and the lips swell and the mouth becomes hot. The stomach becomes deranged, and there may be greenish, acrid discharges from the bowels. There is pain in the abdomen and restlessness, and death may follow neglect to afford relief.

Treatment.—Wash the mouth with witch hazel extract, or raspberry leaf infusion containing borax and glycerine. Add goldenseal and myrrh if there is a tendency to congestion and ulceration. Give syrup of wild cherry bark as a tonic and to regulate the bowels. Measures must be prompt. One drachm of hyposulphite of soda to an ounce of rose water makes an excellent mouth wash.

Tic-Douloureux.—See the article on Neuralgia.

Tinea.—See the article on Worms.

TONGUE DISEASES.

Inflammation, Tumors, Ulceration, Etc.

Swollen and inflamed conditions of the tongue may be the result of various causes, such as injuries, irritating substances and the use of mercury. The last named condition is described under Salivation. The tongue may become so greatly enlarged that death is threatened by suffocation. Infusions of kino or tannic acid should be employed and longitudinal scarification may be necessary. The primary cause must be ascertained and removed or treated. The strength may fail from lack of nourishment, swallowing being difficult. Egg-nog (without alcohol) and other liquid foods may be given, a teaspoonful at a time, placed alongside the tongue while the head is thrown back.

Tumors of the tongue are usually of the vascular order and are described under tumors. Cystic tumors are mentioned as Ranula.

Syphilitic ulcerations of the tongue and abscesses caused by syphilis are very persistent and capable of transmission to others. They are described under Syphilis, in the section on Diseases of the Generative Organs.

Ulceration (Simple).—Broken teeth with sharp projections, injuries, such as glass in the mouth, and also indigestion, may be causes of ulceration. The tongue becomes red, inflamed and sore, and around the edges or wherever irritated, small ulcers form and give great pain and annoyance. Astringent washes are useful, such as raspberry leaves and myrrh in infusion. Holding a crystal of hyposulphite of soda in the mouth will afford great relief. Chlorate of potash is similarly used. If indigestion is the cause, it must be corrected before a permanent cure can be effected.

Malignant Ulceration may be brought about by the same causes as simple ulceration, the general condition of the system allowing degeneration. The disease develops into cancer (epithelioma), and must be treated as laid down for cancer elsewhere. Excision of all or a portion of the tongue is the only possible means of permanent recovery. Irritation from a smoker's pipe is a frequent exciting cause of the difficulty.

TONSILS—ENLARGED.

Hypertrophy.

Young people of scrofulous diathesis are sometimes prone to chronic enlargement of the tonsils, especially when exposed to dampness and cold. The symptoms include enlargement of the tonsils, interference with swallowing, talking and breathing, and hardness of hearing.

Treatment.—The method usually resorted to is the operation of excision or cutting out of the tonsils or cauterization. But remedial measures, rigidly employed, will render operations unnecessary. With an atomizer spray the tonsils three or four times a day with an infusion of gum kino or tannic acid. Internally administer the compound syrup of yellow dock (see formulas), and treat as for scrofula. Avoid night air and cold and dampness. Apply stimulating liniment to the outside of the throat, but do not bundle the throat too warmly.

Tonsillitis.—See the article on Quinsy.

TRANCE.

Profound Hypnotic Condition.

This is a condition of the organism which may occur under various circumstances, perhaps suddenly during the best of health or after prolonged and debilitating disease, such as typhoid fever. Its characteristic is the semblance of death. The surface becomes cold and pale, and the respirations and heart action may be so feeble as to be ordinarily imperceptible. The eyeballs are rolled upward and their lids closed. The muscles are almost invariably relaxed and the secretions suppressed, or almost so. Such a condition may last for hours, days, weeks or months. Restoration of normal conditions may occur gradually or suddenly.

During the trance period the patient is, as a rule, unconscious and remembers upon awakening nothing that occurred during the period. Some persons in the trance state are perfectly conscious of all that takes place about them, but are unable to convey to others the least sign of their vitality. Awakening is usually followed by a period of great nervous prostration.

Treatment.—When a patient is known to be in a trance place him in a comfortable position on a clean and dry bed, taking all precautions to avoid bed-sores,

as laid down in the article upon that subject. Wrap the body in flannel and keep the room moderately warm. Applications of a mild magnetic current should be made at the same time each day, accompanied by efforts to arouse the patient.

Nourishment should be given by injections to the bowels every eight hours. Should there be brief periods of semi-consciousness, as happens occasionally, a little liquid food may be then given by the mouth and extra efforts made to arouse the patient.

Trance victims are usually persons of peculiarly nervous organization or those who have been subject to great nervous strain, and their habits of life should be regulated accordingly. Every precaution against burying alive should be taken when there is the least suspicion of trance. See the article on Death Signs.

TREMOR.

Trembling Convulsions.

This is a condition brought about by causes which injure the nervous system, such as excessive use of tea, coffee, tobacco, alcohol, opium, chloral or bromides, sunstroke, violent grief or anger, sexual abuse, or possibly as the result of wasting discharges, goitre and some other diseases. The symptoms are shaking or trembling of various groups of muscles, most commonly commencing with the hands, and ceasing during sleep. Pain and dizziness may sometimes accompany tremor.

Treatment consists in overcoming any bad habits contracted and otherwise removing the causes of the difficulty. Often will power determinedly exerted will greatly relieve the paroxysms of tremblings. Ten-drop doses of fluid extract of scullcap in water three times a day and hygienic regulations will effect a permanent cure.

Trephining.—This is a delicate surgical operation frequently resorted to for the removal of brain tumors

or the relief of epilepsy or other diseases supposed to be due to pressure upon the brain. It consists of cutting through the scalp with an instrument known as a trephine, and removing a small disk of bone, and then removing the substance pressing upon the brain. It is a very delicate and dangerous operation, and is too often indiscriminately resorted to with fatal results.

TRICHINA.

Trichinosis. Pork Poisoning.

Trichinæ are hog parasites, capable of producing most horrible effects in human beings. The males of trichinæ are about one-eighteenth of an inch in length and the females one-eighth of an inch. After the eggs are laid in the intestines the parents die and the embryos, passing through the walls of the intestines, penetrate the muscular structures and there develop. Once in the muscles, each worm forms itself into a coil, and forms about itself a sort of fibrous shell. Trichinæ may be found in the muscles in two weeks after the time the parents were swallowed. See illustration in the article on Worms.

Symptoms.—A few trichinæ may cause no difficulty; but if there are sufficient to make trouble the following symptoms will be recognized in whole or in part: A few hours after trichinæ have been set free in the intestines there may be loss of appetite, headache and nausea, inflammation of the mucous membrane, causing pain in the abdomen, diarrhœa and great prostration, followed by fever and great restlessness. In slight cases no other symptoms will develop, and recovery may soon follow; but in severe cases many of the signs of typhoid fever and other symptoms may develop, such as abdominal swelling and tenderness, and swelling of the face and body, the muscles are stiffened and painful, breathing may be difficult on account of a sense of constriction in the chest, and great prostration follow accompanied by diarrhœa.

Fever arises along with great tenderness and irritability, and these continue until the trichinæ become

encysted in the muscles and surrounded by their envelopes. There may be great paleness of the whole body, and usually dropsical swellings and paralysis. This condition usually occurs within four weeks after the trichinæ entered the stomach. Death may at this time occur; but robust persons may improve and recover after slow convalescence. If new trichinæ be developed, the whole set of conditions must be again passed through, and then death will likely result after an illness of possibly one, two or three months.

Convalescence finds the patient much exhausted and emaciated, but the appetite increases and the food taken rapidly forms flesh, so that when once established, recovery is complete.

Treatment.—The disease can be acquired only by eating rare or raw pork, even smoked, though uncooked, ham, may cause it. When it is believed, by disturbing symptoms or a knowledge of having eaten rare pork, that trichinæ have been taken into the system, measures must be adopted at once to get rid of them. If soon after eating, an emetic must be taken; if several hours after eating, use salts and senna, or castor oil, or any quick cathartic to completely empty the alimentary canal.

Medicines are of no avail to destroy trichinæ in the muscles, but from the start the strength must be maintained so as to sustain the strain upon it. This can be done by the use of tonics and most nourishing food. There will be great loss of appetite, but the food must be taken at all hazards. The various symptoms that arise must be appropriately met, as there is no specific for trichinæ. Baths and friction are valuable aids. About twelve per cent of trichinæ cases are fatal.

Trismus.—See the article on Lockjaw.

Tubercular Meningitis.—See the article on Meningitis (Tubercular).

Tuberculosis.—See the article on Consumption.

TUMORS.

Fibrous, Fatty, Vascular. Wens, Carcinoma, Etc.

All enlargements of tissue, where such enlargements do not naturally belong, may be designated as tumors if they manifest a disposition to become permanent. There are many kinds of tumors, named according to the class of tissues involved, such as fibrous, bony, cartilaginous (enchondroma), glandular, muscular (myoma), epithelial, vascular, etc. Any one of these may be *malignant*, that is, enlarge rapidly and show a tendency to ulcerate and have particles of its poisonous character conveyed through the circulation to other parts of the body. Or tumors may be *benign*, being confined locally, enlarging slowly and evincing no tendency to ulcerate or to return after removal by surgical operation, and not being capable of having their particles disseminated through the circulation.

Fibrous Tumors are usually hard and elastic, and develop slowly. They rarely occur until middle life, and are oftenest situated along the bones or nerves or near the ears, or joints or in the uterus. The only method of treatment is removal by surgical operation.

Fatty Tumors develop slowly and are situated on the back or limbs. They are often movable, seeming to be a simple enlargement in the skin. Very little if any pain accompanies them, and they may grow to an enormous size, causing great inconvenience. If the tumor is distinct and its outlines very marked, it should be removed by the knife, it being easily dissected from its surroundings. But if such tumors are continuous, as for instance large folds on the back of the neck, or very pronounced double chin, they should be left undisturbed, and attention given to hygiene and diet, disbaring fats, starchy foods and sugar. Occasionally fatty tumors ulcerate and require the treatment given for abscesses.

Vascular Tumors are usually dilatations of the capillaries or other blood vessels held together in masses varying in size from that of a pin head to a

hen's egg. They are chiefly found upon the tongue, scalp or trunk of the body, but may appear anywhere. Blackberry marks and many other forms of *nævi* (birth marks) are vascular tumors. It is sometimes dangerous to tamper with them, especially those about the head. As a rule they do not increase much in size, though occasionally they become large enough to actually endanger life.

Treatment must be cautiously employed. Monsell's solution of iron frequently applied may be of service in some cases. This tincture is frequently injected into the tumor, but such a procedure is attended with risk. Very small tumors may be removed by caustic or nitric acid. Ligatures are sometimes employed, and not infrequently the knife is resorted to with good results.

Glandular Tumors (lymphoma) are usually accompaniments of the scrofulous diathesis and require treatment prescribed for scrofula, besides possible extirpation or the attention usually given abscesses.

Cystic Tumors are sacs containing thin or viscid fluid or jelly-like substances. Serous cysts are filled with serum and may occur almost anywhere; they are often termed hydrocele. Treatment consists of puncturing the sac and forcing out the fluid; and occasionally the whole sac requires extirpation. Hydrocele in the scrotum is described under diseases of the generative organs. Cystic tumors containing blood are termed sanguineous and are treated as hydroceles.

Sebaceous Cysts.—*Wens.*—These are caused by unusual growth of sebaceous glands, and most frequently occur upon the scalp. Wens are sacs filled with cheesy material, and seldom attain a size larger than that of a hen's egg; they occasion no pain, but are unsightly and often inconvenient. It is a trifling matter to remove them by excision, and small ones may be opened by incision and the contents squeezed out.

Ovarian Tumors are of the cystic variety. Their removal by surgical operation has become very suc-

cessful, and all attempts to cure them otherwise when once fully developed have proven useless. See Diseases of Women.

Carcinoma.—These are described in the article on Cancer, which see.

Papillomata are hard growths upon the skin, usually of small size and caused by handling irritating substances. They may be shaved off above the point where the blood circulates and then caustic applied. See Warts and Corns.

Sarcomatous Tumors are of many varieties. They are smooth and round, and usually are caused by accidents or by irritations. Blows on the breasts, pressure of corset steels, etc., frequently cause sarcomata on women. Such tumors may occur on any part of the body, and men and women are equally liable. They develop variously and may recur. Oftentimes they degenerate and become malignant, so that their early total excision by surgical operation is the most successful treatment. The general health must be supported by tonics and alteratives such as the gentian and yellow dock compound (see formulas). The diet should be nourishing, but should exclude tea, coffee, spices, pork and fats. Frequent baths and outdoor exercise with the above precautions may avert malignancy.

Tympanitis.—This is a symptom of disease characterized by distension of the abdomen by gas. Sometimes this distension becomes enormous and the skin very tense, and striking it with the finger gives drum-like resonance. It occurs in child-bed fever, peritonitis, typhoid fever, and various forms of colic and other diseases.

Tympanitis (Hysterical).—This is the enormous distension of the abdomen which is occasionally met with during hysterical attacks. It is easily distinguished from tympanitis of other diseases by absence

of fever and the relief afforded by pressure. Injections of lady slipper and assafoetida will usually cause subsidence. See the article on Hysteria.

TYPHOID FEVER.

Enteric Fever.

This is a malady to be dreaded, and never occurs without cause for serious apprehension. It usually is epidemic, and by some is regarded as contagious. Impure drinking water is responsible for most cases of typhoid fever, and in cities, impure milk is a fruitful source of the disease. In the country, sewage from drains or vaults may find its way into wells and contaminate the water, a very small amount of such filth being capable of rendering a well or cistern of water highly dangerous for drinking purposes. Sewer gas in houses, from defective plumbing, decaying vegetables in the cellar, and similar unhygienic conditions may cause typhoid fever when there is no epidemic of the disease. Persons who are feeble or who are worn out in mind or body are more liable to take it than others. Such persons should not visit or nurse typhoid fever cases. Old persons are seldom attacked, and the fall of the year is the usual time for the appearance of an epidemic.

To a great extent typhoid fever is preventable by taking great precautions to avoid all surroundings and circumstances which are favorable to its development. In cities this is often difficult to do. But suspected water may be boiled before using for drinking purposes, and condensed milk may be used when the milk supply is not above suspicion during an epidemic. Keep the mind clear and the body clean, breathe pure air and eat and drink only pure articles; thus can typhoid fever be avoided.

Symptoms.—It is a very common thing for a physician to inform his patients that they are suffering from typhoid fever when there is really but very slight resemblance to the disease present. The credit of pulling them safely through such a well known serious

malady adds greatly to his hold upon the family's confidence as well as its bank account.

When the symptoms are known, the absurdity of speaking of trifling diseases or bilious attacks as typhoid fever will be apparent, and along with many other professional tricks this one of misrepresentation will fail in its object.

Almost universally an attack of typhoid fever comes on very slowly—the period of invasion extending over two, three or four weeks before pronounced manifestations of the actual disease are recognized. During this period of invasion there are usually symptoms to mark the approach of trouble.

The victim feels generally "worn out and good for nothing," with no inclination to do anything or to take interest in usual subjects. The appetite fails, and it is difficult to persuade him to take enough nourishment to subsist upon; there is little disturbance, if any, in the stomach, but the condition of the bowels will show that even the small amount of food taken is not properly assimilated. Two or more discharges, of a thin and very offensive character, occur from the bowels daily. The head aches and feels dull, and there may be a small amount of bleeding from the nose. These symptoms gradually increase. There may be general chilliness at times or a "creepy" feeling down the back, often pain in the joints and great prostration, leading one to think that the patient has taken a bad cold while very bilious, a cough often setting in and the throat becoming somewhat sore.

The tongue at first is moist and slightly coated, and soon becomes red along the edges and tip, and also sharply pointed, indicating great irritation in the intestinal canal, as indeed there is; other signs corroborating the indication of the tongue. The abdomen becomes somewhat distended, and pressure, especially in the right groin, reveals considerable tenderness. Often a gurgling sound may be heard by laying the hand flat over the abdomen and slowly increasing the pressure.

The discharges from the bowels increase to ten or twenty a day, being yellow or greenish in color, very offensive, and often flocculent in character. The face

becomes flushed early, and gradually forms a bright red patch on each cheek. From the start the urine is scanty and increases in muddiness.

The patient rarely goes to bed until such symptoms have continued a week or more; seeming to wish to put off as long as possible what he apparently realizes is to be a long spell of sickness. Finally, with a feeling of exhaustion, he succumbs to the inevitable and takes to his bed.

During this period of invasion there is a low continuous fever—the temperature ranges about 100° to 102° , and the pulse about 100 to 110 beats per minute, rather full at first.

After going to bed the patient usually lies on the back, and sleeps mostly during the day, looking stupid and being confused in mind when awakened. It appears difficult for him to grasp the meaning of questions at once, and he does not reply readily when spoken to. There is a careworn look in his face, and his hands and lips tremble. The tongue has a dry and brown streak down the middle, while the tip and edges becomes an angry red. The diarrhœa increases in frequency and in offensiveness, and becomes very exhausting. The abdomen increases in fullness and tenderness, and gurgling may be plainly heard.

Toward the end of the second week small pink spots, oval or rounded, appear over the body; they are slightly raised, and are usually confined to the chest and abdomen. These spots come and go several times in succession during the course of the disease.

At the end of twenty-one days, the patient is in a serious condition. He is much emaciated, and lies on the bed half unconscious of what is going on about him, so weak as to be unable to hold a spoon in his hand, often muttering while awake or asleep, in a low voice. The face is very thin and pale or dusky, and the skin feels and looks somewhat like parchment. The flesh over the body has fallen away frightfully, and the hands look like those of a skeleton. Sleep seems like a stupor, with the eyes half open. The tongue is shrunken, and is either a glassy red or is dark brown and it can be protuded with great difficulty, trembling when the effort is made. Dark crusts form

over the teeth, lips and insides of the checks. The abdomen often at this time become enormous in size and tense as a drum-head, and often sharp and constant pain is experienced in the right groin. The pulse becomes very frequent, often 135 beats per minute, soft and feeble, and breathing may be scarcely perceptible.

It is manifest that such a condition of affairs cannot last long without a change for better or worse, and during the fourth week changes are certain to occur.

Bad signs at this time are: Increasing stupor or listlessness, or increasing restlessness and wakefulness at night; often when apparently asleep the patient is discovered to be awake and staring blankly. Hurried and irregular breathing may occur, along with a catching or gasping of the breath. The abdomen may seem about to burst. Bleeding of the bowels may occur, causing great prostration and being extremely dangerous, indicating that the ulcers which form in the bowels during every case of typhoid fever, have eaten deeper into the tissues and will probably perforate the bowels. (Such a result may occur any time from the tenth to the fortieth day.) The tongue may grow almost black and may be fissured and bleeding. The urine may be almost totally suppressed.

Favorable signs are: Slowly returning strength, more natural sleep, decreasing fever, slower and fuller pulse and more natural breathing; diarrhœa ceasing, and the size of the abdomen diminishing, and the urine becoming more free.

Such are the usual symptoms in a typical case of typhoid fever. and ninety-nine per cent of cases are typical. Occasionally variations may occur. The disease may come on suddenly with a pronounced chill, severe headache, constipation and great depression, followed by moderate fever and exhaustive sweating (especially during sleep). Some cases may have frequent vomiting of greenish material, accompanied by little fever. Others may have obstinate constipation instead of diarrhœa. Occasionally the eruption is very pronounced, extending over the whole

body. These variations are seldom met, and are always unfavorable. It is apparent that ulcerations in the intestines permit of only slow recovery, and for that reason recovery from typhoid fever is very slow. Relapses are very liable, and are usually caused by eating solids too soon, or by over-estimating the strength.

Treatment.—It is a great mistake to suppose that typhoid fever, once established, can be cut short by specifics and violent medication. It cannot be thwarted, when once pronounced, by any known drugs. But a great deal by the way of nursing, management and hygiene may be accomplished; and without such aids medication will be found next to useless.

Ventilation and pure air are absolute necessities in every case. Sponge baths of a temperature grateful to the patient should be given every night and morning, or often^{er} if there is great restlessness. If such frequent bathings are tiresome, then often wipe the hands and face with a moderately cool wet cloth. Never expose the whole body at once while administering the bath. Have the bed clothing as light as is consistent with proper warmth, and do not allow the patient to lie upon a feather bed or to be covered with feathers, as is often the habit with some. Always use the bed-pan, and do not allow the patient to exert himself in any way.

In the way of *food* only the most nourishing substances can be used. Milk diet is very valuable, but be sure the milk is absolutely pure or else use Malted Milk or Lactated Food; strained oat-meal, or strained barley broth are excellent; toast-tea and pop-corn tea are also relished. Feed any of these frequently, every three hours, and give no more than half a small teacupful at a time. If flocculent materials increase in the discharges from the bowels, add a teaspoonful of lime water to each portion of the milk or tea.

During convalescence do not venture upon solid food hastily, it is highly dangerous. Once a day for many days is sufficient for solids at that time, and then only such as a soft poached egg, or a mashed baked potato can be allowed. Ice cream is often

craved, and a little of this may be allowed, during recovery, to be eaten very slowly. Beef tea, mutton broth, oyster soup and similar articles are good when danger is past.

Medication must be only of the simplest character and very small in quantity. A small spoonful every three hours of weak tea of pleurisy root will soften the skin if it is inclined to be hot and dry. Neutralizing cordial in a tea of wild cherry bark, very weak, is good for soothing the bowels and checking excessive diarrhœa, and if prostration is pronounced, goldenseal may be added as a tonic. The distended abdomen may be bathed with a mild liniment, and if very tender, flannels wrung out of hot water may be applied. A small bag of chopped ice laid in the right groin will often stop bleeding from the bowels, or cold injections of water containing distilled extract of witch hazel may be resorted to.

Use disinfectants freely about the room. A solution of thymol is excellent to put about the bed clothing. Carbolic acid is too disagreeable. Some strong disinfectant, such as Platt's Chlorides, should be put into the bed-pan immediately after it is used. Keep the patient quiet and cheerful under every circumstance.

TYPHUS FEVER.

Ship Fever. Typhus Exanthematicus.

This is a severe infectious disease, seldom met in the country, but frequent in crowded and unhealthy places, and in camps and on ships. It is essentially a filth disease, and never appears where there is cleanliness and hygienic surroundings.

Symptoms.—In about fourteen days after exposure there will be chilliness and headache, followed by vomiting and fever. The face becomes dusky, the tongue is dry and coated, and there is great thirst; the bowels are constipated and the urine scanty; the pulse is small and frequent. From the fourth to the seventh day the surface becomes covered with a purple rash,

chiefly on the chest and abdomen. This rash continues about a week and during its continuance all the symptoms are aggravated. All the senses may become impaired, the pulse is very frequent and weak, and the tongue dry and very dark. Usually there is unconsciousness at this stage and death may occur.

Convalescence is always slow and accompanied by great weakness. Erysipelas, pneumonia and glandular swellings are liable to occur during typhus fever.

Treatment.—An abundance of fresh air, great cleanliness and quietude, pure and nourishing, but light, food and hygienic surroundings are all imperative. Temperate sponge baths, daily at first, are a necessity.

For the constipation give two liver pills (see formulas) every night. During the high fever use the following:

Take Pleurisy root, peach leaves, each . . one-half ounce.

Ginger one-half ounce.

Mix and make an infusion with one quart of boiling water.

Dose, one-fourth cupful every hour while awake.

Every four hours a tonic of scullcap and goldenseal is advisable. As the case progresses more stimulation will be needed, and a drachm of compound tincture of myrrh may be added to the infusion. The mouth will need to be washed out frequently with gum Arabic water containing borax, and stimulating liniment should be rubbed over the abdomen twice a day. Keep the feet warm, and frequently change the position in bed to avoid bed-sores. During convalescence the tonic should be maintained. Good nursing is a most essential feature in the proper treatment of typhus fever.

ULCERS.

Healthy, Indolent, Inflamed, Phagedenic.

An abrasion of the skin or mucous membrane which does not readily heal, but instead experiences a de-

struction of tissue with the formation of pus, may be termed an ulcer, and the process of destruction is termed ulceration. Irritations of any kind, or bruises may be exciting causes of ulceration, and the development or progress of the process may depend upon various circumstances. Several classes of ulcers may be mentioned.

Healthy ulcers are usually circular and are covered with creamy-looking pus, and the edges have a slight bluish-white film of newly forming skin, continuous with the sound tissue and fading into the sore. Pus of the character mentioned is termed healthy or bland pus, and its presence indicates that the healing process is going on. The healthy ulcer has a pink color, and its edges are soft, and the whole sore is extremely sensitive.

Treatment is simple and effective. Twice a day wash the surface with a weak solution of borax in warm water, to which a little extract of witch hazel may be added. Saturate absorbent cotton or lint with this and place over the sore, and over this lay a cloth spread with vaseline; place a large piece of cotton over all and bandage to keep in position. Quietude and a light diet will be required. Such dressing must be attended to twice a day. If there is a tendency to profuse discharge of pus, a very little tincture of myrrh may be added to the wash. Carelessness, over-eating and other imprudencies may cause a healthy ulcer to degenerate, especially if the constitution be weak or strumous.

Unhealthy or weak ulcers usually rise above the surrounding tissue, being filled with "proud flesh," which has but little sensitiveness and overlaps the otherwise natural edges. The discharge, instead of being creamy, is very thin.

Treatment must be vigorous. With a camel's-hair brush touch the "proud flesh" with burnt alum, prepared by simply roasting ordinary alum. This should be done each time after washing. Cover the ulcer with an ointment made by mixing powdered myrrh and goldenseal in vaseline. About the ulcer on the sound

tissue it is well to rub compound tincture of myrrh, and bandage as for healthy ulcer. The bowels must be kept open, and a light diet, and fresh air and quietude provided. Compound syrup of gentian should be used as a tonic.

Indolent ulcers are often spoken of as old sores or callous ulcers. They are depressed, and the surfaces have a glazed and ashy appearance. The edges are hard like gristle and elevated, irregular and of a bluish cast. The discharge is thin and watery and acrid, perhaps tinged with blood, of the character known as *ichorous*. Surrounding tissues are usually dark and swollen.

Treatment must be persisted in for perhaps many months. Wash the ulcer with borax solution containing tincture of myrrh and fluid extract of goldenseal. About the sores apply equal parts of compound tincture of myrrh and fluid extract of goldenseal. Press the edges together as far as possible and keep in position by bands of surgeon's adhesive plaster. Frequent bathing should be practiced and an occasional stimulating emetic (see emetics) should be administered, and rest of the affected limb is imperative.

Tea, coffee and alcoholic liquors should be forbidden. A light diet must be used, and digestion maintained. The bowels must be kept free. Compound syrup of Stillingia, containing an ounce of fluid extract of gentian to the pint, should be used in teaspoonful doses three times a day. Indolent ulcers may require years of persistent treatment.

Inflamed ulcers present angry and out-turned edges, and are accompanied by throbbing pain and profuse and offensive discharge. Any form of ulcer may become inflamed by over-exertion or imprudence. When such a case arises apply flax-seed poultice sprinkled with powdered lobelia and goldenseal until the inflammation subsides, and then treat according to the nature of the ulcer.

Phagedenic ulcers are characterized by thin and bloody discharges, offensive and persistent, with a

tendency to become gangrenous. Treatment must be in accordance with the principles laid down under the title of Gangrene.

URAEMIA.

Blood Poisoning from Absorption of Urinary Constituents.

This is a very grave condition, brought about by the retention in the system of the constituents of the urine. These being carried about with the circulation constitute one of the most serious forms of blood poisoning. Uræmic poisoning is a common accompaniment of Bright's disease, and other abnormal conditions of the kidneys. It frequently follows scarlet fever; and is not unusual in diphtheria and infective diseases in general.

Obstructions to the free discharge of urine may cause its constituents to be absorbed, as in tumors, pregnancy, paralysis, etc. From whatever cause it arises, uræmia is a most serious difficulty, and unless relieved promptly will almost certainly prove fatal.

Symptoms.—As a rule uræmia is developed without warning, though occasionally there may be a previous history of headache and dizziness of frequent occurrence, and a peculiar sallowness and puffiness of the skin, especially under the eyes; sometimes it is characterized by sudden blindness, which may last four or five days. Deafness is sometimes a symptom, but more usual are perversions of hearings, such as ringing in the ears, tinklings, etc. There may be bloody discharges from the nose or mouth, and frequently vomiting and diarrhœa with considerable straining. Loss of voice or hoarseness may occur, and there may be swelling in the throat, interfering with respiration; and lung troubles are not infrequent. Pleurisy of a most painful character sometimes occurs.

In many cases, especially during pregnancy, the patient will be seized with convulsions resembling those of epilepsy, and there may be total loss of consciousness and involuntary discharges from the bladder and

bowels. The pulse of a person suffering from uræmia is usually feeble and slow. Sometimes there will be relief by profuse perspiration of an ammoniacal odor.

Treatment.—The best plan is to give the patient a hot air bath, which is easily done by having him sit upon a cane-seated chair, close to which is placed a large sized, lighted lamp, and a blanket thrown over all in tent-like fashion, the patient's head being left exposed and kept cool by cold water. Arouse perspiration by this method and then place the patient in bed between blankets, and administer infusion of peach leaves, blue cohosh and ginger. See that the bowels are regulated and that the stomach is kept free from disorder. Cheese is an especially objectionable article of diet. Frequent baths are advisable.

URINE.

Characteristics and Constituents.

Healthy urine is usually of an amber color, though it may be of a reddish cast or very pale.

Redness of the urine may follow excessive eating, or may be due to the use of rhubarb or saffron, or of san-tonine (frequently administered for worms). Fevers and acute disease usually give high colored urine.

Paleness of the urine may be the result of copious drinking or of taking tannic acid internally. In diabetes, anæmia, hysteria and during the course of various diseases the urine may be pale.

A *blue cast* to the urine is sometimes observed in typhoid fever and cholera.

Smoky appearance of the urine always denotes hemorrhage into the kidneys or bladder.

A *greenish or yellowish cast* usually means the presence of bile.

Muddy urine, especially after fever, is usually a good sign, indicating the discharge of accumulations.

Sometimes a *brick-dust* appearance of sediment will be noticed, especially after excitement or fever, and denotes the discharge of solids, and is therefore a favorable indication in most cases.

The *odor* of urine is characteristic and well known. Asparagus, onions, cabbage and some other foods alter the odor, as also do turpentine, cubebs and various drugs. When the urine, upon being voided, smells like ammonia it is an indication of decomposition taking place—suppurative inflammation of the bladder usually gives urine of this odor.

Healthy urine is usually clear. Sometimes it has a turbid appearance after cooling, usually indicating that there is irritation somewhere in the urinary tract, the turbidity being due to mucus. When the first urine passed is at once noticed to be turbid, it is usually an indication of pus. Turbid urine (muddy) after an attack of fever is a good indication.

Milky urine denotes the presence of chyle. It is seldom met with, and is described under Chyluria.

The *amount* of urine passed in twenty-four hours by a healthy adult should be about three pints. Copious drinking, eating of onions or some other foods, and nervous excitements may increase the amount discharged without any indication of disease. The administration of various drugs may increase the flow of urine, such as juniper, peach leaves and all the class known as diuretics. The amount of urine is increased during diabetes. Fever and many diseases of the liver and heart and kidneys diminish the amount of urine in most cases.

A gritty *deposit* in the vessel may indicate the presence of gravel or the commencement of urinary calculi. A *rusty* appearance to the sides of the vessel usually denotes sluggishness of the liver. A dull-white *sediment* indicates kidney congestion and derangement of the stomach.

Specific gravity of urine is determined by a small instrument known as a hydrometer or urinometer. It consists of a graduated tube proceeding from a small bulb containing mercury (something like a thermometer tube and bulb). A tall glass cylinder is nearly filled with urine and the tube inserted; the degree touched by the surface of the liquid denotes the specific gravity. Healthy urine varies as to its specific gravity from 1015° to 1026°. In ascertaining the spe-

cific gravity, the mixed urine of all voided in twenty-four hours should be taken. After copious drinking the specific gravity will be lowered, and after eating or after profuse perspiration it will be increased. Nervous excitement, running, exposure to cold and hysteria will lower the specific gravity, without indicating disease.

High colored urine of low specific gravity is an indication of disease, unless it can be directly attributed to peculiar diet or the administration of drugs.

Pale urine of a high specific gravity denote disease, and if abundant in quantity, diabetes is indicated.

Re-action.—When the urine is first voided it should be slightly acid in character, though using alkalies, such as magnesia or soda or lithia, may render it alkaline. A strongly acid urine denotes a tendency to rheumatism. If the urine should be alkaline when voided, if not due to the administration of alkalies, it denotes decomposition taking place in the urinary tract, often pointing to chronic disease of the bladder, though occasionally indicating spinal difficulty.

The re-action of the urine is easily ascertained. Strips of red and of blue litmus paper can be obtained at any drug store. A blue strip plunged into urine will turn red if the urine is acid, or a red strip in alkaline urine will turn blue. Very rarely will neutral urine be observed.

Sugar in the urine, when in small quantities and not persistent, may be of no special importance, although it is not a natural constituent. Eating excessively of sweets may cause its appearance. Old persons, women who are nursing infants, and persons suffering from carbuncle, internal abscess, malaria, cholera and many nervous disorders may have sugar in the urine. When the presence of sugar is persistent in readily appreciable quantities, diabetes mellitus is indicated (see Diabetes).

To test for sugar: Pour a drachm of urine in a test tube and add half a drachm of solution of caustic potash and then add ten drops of solution of sulphate of copper (blue vitriol), shake and then heat; the pres-

ence of sugar will be indicated by the urine turning red or brown according to the amount present. Another test consists of putting a small amount of yeast in a bottle of urine and placing it in a warm place for twenty-four hours; the presence of sugar will be denoted by pronounced fermentation.

Albumen in the urine indicates a disturbance in the system, usually amounting to serious disease. The presence of albumen may be temporary, as in acute diseases, pregnancy, injuries to the brain. Organic kidney disease and heart diseases usually give persistent presence of albumen. Pus in the urinary tract, as in inflammation of the bladder, gleet, gonorrhea, etc., will also give albumen in the urine. Its presence in Bright's disease is persistent.

There are many tests for albumen, the simplest of which may be mentioned. Partially fill a test tube with the suspected urine, and inclining it, heat the upper portion to boiling; hold the tube before a white paper, and the presence of albumen will be indicated by a cloudy appearance to the boiled portion. Slowly drop in a few drops of nitric acid and the cloudiness will remain if albumen is present, but will disappear if due to other constituents.

URINE RETENTION.

Inability to Urinate.

From various causes the urine may be retained in the bladder, causing great discomfort, amounting to agony in prolonged cases. The bladder becomes distended and may sometimes be distinctly felt by pressure. Agony from retention may be so intense that a cold sweat will come over the body and a distinct odor of urine may be recognized.

Treatment.—Apply hot wet cloths about the genitals and over the region of the bladder, or administer a sitz bath. Usually taking a dose of some quick-acting cathartic will overcome retention. If these measures should fail, the catheter must be employed.

Suppression of urine is the failure of the kidneys to secrete the urine, and in that case the bladder will be empty. See Urine, Suppression.

URINE SUPPRESSION.

Failure of the Kidneys to Secrete Urine.

Most severe suffering is occasioned by the failure of the kidneys to secrete urine, or the inability of urine to enter the bladder on account of gravel, calculus, tumors or other obstructions in the kidneys or ureters. Frequently in severe diseases almost complete suppression occurs, and may continue several days before alarming symptoms are manifested.

Symptoms.—There may be stupor or convulsions, restlessness and contracted pupils, or, if due to obstruction, there may be pain in the back and bladder, and great desire to urinate, possibly a drop or two being voided at frequent intervals.

Treatment.—Place over the bladder and small of the back hot fomentations of smart-weed or other stimulant. Do not use diuretics, but enforce quietude and administer hot baths. A dose of Epsom salts may prove serviceable. The catheter will be found useless, as the bladder will be empty, in which suppression differs from retention.

URTICARIA.

Wheals.

This is an annoying, though never fatal, affection of the skin. It is characterized by small and numerous white elevations upon the skin of various parts of the body, surrounded by slight redness. These elevations or wheals come and go for perhaps a month, though usually last a few days only. Very rarely there is slight feverishness. Often the itching becomes intolerable, and scratching aggravates the difficulty.

Treatment.—Usually urticaria is caused by eating articles of food which disagree with the stomach, and leaving such articles alone will cure the trouble. Nothing gives such relief as bathing the parts with solution of citric acid—one ounce to the quart. The bowels must be regulated and frequent bathing of the whole body indulged in. Persons especially liable to urticaria should tone the stomach by some tonic, such as fluid extract of wahoo added to the Stomach Tonic (see formulas).

Varicella.—See the article on Chicken-pox.

Variola.—*Small-pox.*—See the article on Fever (Eruptive)—Small-pox.

Varioloid.—A light form of variola or small-pox. See the article on Fever (Eruptive)—Small-pox.

Venereal Diseases.—See the section on Diseases of the Generative Organs.

Volvulus.—See the article on Bowel Diseases—Obstructions.

Warts.—These are over-developments of cells of the skin, usually brought about by irritations. A number of so-called cures may be mentioned. Run a needle through the wart and then hold the free end of the needle in the flame of a lamp, candle or gas jet until it is red hot; the wart will turn white and be destroyed without pain. Rub juice of milkweed over the wart. Apply dilute acetic acid. Rub frequently with a moistened crystal of citric acid. Apply sub-sulphate of iron. Never cut off a wart; though with

care they may be cauterized with nitrate of silver or nitric acid.

Warty Small-Pox.—This is sometimes known as hornpox. It is a peculiar form of small-pox in which the eruption does not form papules containing pus, but simply develop into warty growths. Its treatment is the same as that for ordinary small-pox. See the article on Fever (Eruptive)—Small-pox.

White Swelling.—This is scrofulous swelling of the knee-joint. See the article on Scrofula.

WHITLOW.

Felon.

This is a most painful abscess of the finger or thumb; usually caused by bruising the member. Development may be slow and accompanied by great pain and nervous weakness. The abscess may be outside of the bone entirely or it may be beneath the covering (periosteum) of the bone.

Treatment.—Some felons have been checked by holding the thumb or finger in kerosene oil for ten or fifteen minutes at a time, two or three times a day. But usually felons cannot be aborted. The only way to cure a developed felon is to cut clear into the bone with a very sharp instrument and allow the pus to escape. Poultice the finger as for ordinary abscess.

WHOOPIING COUGH.

Chin Cough. Pertussis.

This is a protracted, spasmodic cough, most frequent among children, and often occurring as an epidemic, being peculiarly contagious. It very seldom attacks a person who has once been afflicted by it, and its infection is conveyed by the breath. Cold and dampness are predisposing causes of an epidemic of whooping cough. It is chiefly catarrhal in its nature, though undoubtedly certain nerves are involved.

The time required for the development of whooping cough after exposure varies greatly, ranging from two days to two weeks; and the difficulty may last eight or nine weeks or longer, and is especially liable to have complications of a serious nature by neglect

Symptoms.—After development the course of whooping cough may be divided into three stages, as follows:

First Stage.—This is characterized by prominent catarrhal symptoms, and sets in as an ordinary cold. There will likely be chilliness followed by slight fever, sneezing, watery eyes, languidness and headache. Coughing is frequent and annoying, causing a most disagreeable sensation and considerable loss of sleep. This stage of the disease may last from one to five weeks, usually about two weeks, and runs into the next stage.

Second Stage.—Frequent and most distressing paroxysms of coughing now manifest themselves. Increasing in frequency and severity as the disease progresses. Each paroxysm is preceded by a peculiar sensation in the chest and throat which gives warning of its approach. The child endeavors to repress the cough but always unsuccessfully. It consists of several rapid and violent expiratory acts, not permitting inspiration until all air seems to be exhausted from the lungs, and then the air is drawn inward with a whoop. During the paroxysm of coughing the child becomes weak and clings to any convenient article, the eye-balls bulge forward, the veins of the neck and face become prominent, the countenance turns purple, sweat covers the forehead, the heart beats violently and it looks as though there would be rupture of a blood-vessel or death by suffocation, when relief comes.

Such a paroxysm may last from one to six minutes and then cease suddenly, and be followed by expectoration of tenacious mucus or by vomiting of the stomach's contents. Relief follows, but is of short duration, as paroxysms follow one another closely, the intervals lasting an hour or half hour or, perhaps, only a few minutes.

This period may continue two or more weeks. During paroxysms the eyes may become bloodshot and there may even be bleeding from the nose or ears, or involuntary ejections from the bowels and bladder. Convulsions may occur. There is no fever during this period, but appetite is usually lost.

Third Stage.—This may be termed the period of convalescence, and gradually follows the paroxysmal stage. It is characterized by diminution of the cough in frequency and severity, and the appetite returns and food is retained and sleep is obtained. Care must be taken during this stage to guard against exposure and over-eating, lest paroxysms again increase in frequency.

Complications.—Bronchitis, capillary bronchitis, catarrhal pneumonia, pleurisy, emphysema, laryngitis, croup, meningitis, inflammation of the stomach or bowels with diarrhœa, hernia, ruptures of blood-vessels and various other complications may arise during whooping cough, caused by the violent paroxysms, exhaustion, exposures or by accident. Consumption or tuberculosis may follow the disease, especially in scrofulous subjects.

Treatment.—Whooping cough is such an exhaustive and distressing malady, that while it is of itself rarely fatal, children should not be purposely or carelessly exposed to it. And when contracted do not conclude that it must run a long and tedious course, but determine to cut it off as quickly as possible. Any neglect to prevent or properly attend to whooping cough is an act of cruelty to the little child who is afflicted.

Be sure that the patient is warmly clad; woollens should be placed next to the skin and at night the child should sleep between blankets. It is most beneficial to protect the chest by a chammois skin or flannel breast plate, and during the most severe paroxysmal period to place over the chest a brown paper covered with mutton tallow and well sprinkled with ginger. Should the weather be warm, out-door play during the sunny hours will be beneficial; but during cold or inclement weather the patient should be kept strictly in-doors.

The diet must be light and nourishing and consist of easily digested foods. A paroxysm of coughing may sometimes be averted by turning the child's attention to other matters.

The following preparation will cut short an attack of whooping cough: Chestnut leaves, two ounces; black cohosh, one ounce; lobelia herb, one-half ounce. Steep in a pint of boiling water for half an hour and then add two pounds of sugar. Dose, one teaspoonful every hour and frequently during a spell of coughing. Persistence will give relief.

During the period of convalescence syrup of wild cherry is the proper tonic. All through the attack flaxseed and ginger tea should be allowed in abundance. Complications must be appropriately treated.

WORMS.

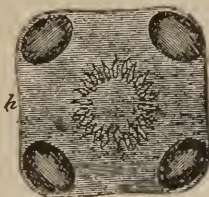
Round Worms. Pin Worms. Tape Worms.

Worms of various kinds may make their homes in the human intestines, causing not only annoyance and often distress, but also loss of flesh and strength and general impairment of health by interfering with nutrition. They gain entrance to the alimentary canal chiefly as eggs in food and drink, and take up their abode in special localities according to their nature. Altogether between thirty and forty different kinds of worms thrive in the human intestines, though they may all be generally classed under a few headings.

Round Worms.—*Ascaris Lumbricoides*.—These very much resemble in size the ordinary angle worms, though they possess more firmness and are of a pink or flesh color, and vary from three to four inches in length. Seldom more than two such worms are found at one time in a human being, although they may be very numerous and even amount to an obstruction in the intestines.

A female intestinal worm is capable of discharging sixty millions of eggs, and these eggs retain their vitality under most adverse circumstances. They are

HUMAN PARASITES.

Round Worm (*Ascaris Lumbricoides*). Half size.Itch Mite (Scabies).
Greatly magnified.Thread Worm.
a. Magnified (Bristowe).
b. Male.Trichina.
Greatly magfd.

d



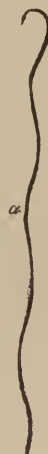
k



j



f



b

Tape Worm. a, b, c, d, different parts (natural size); e, f, Cysticercus (natural size); g, Head; h, Head seen from above; i, Sucker; j, Hooklet; k, Egg.
All greatly magnified. (BRISTOWE.)Filaria.
(COBBOLD.)

discharged with fæces from the bowels, and find their way into streams and shallow wells, and are, with the drinking water, introduced into the human body to be hatched. Thus it often happens that many persons depending upon a surface-water supply are afflicted with worms; while those drinking water from deep wells, or filtered water, are not apt to be annoyed. While the worms usually remain in the intestines, they sometimes wander into other localities, such as the stomach, or even up behind the nose, in the pharynx and possibly into the Eustachian canal, leading from the pharynx to the middle ear. Occasionally through fistulas or abscess they may enter the bladder, and it is not uncommon to have them vomited from the stomach.

Symptoms.—The presence of round worms in the intestines may not be accompanied by any pronounced symptoms, and may not be even suspected until noticed in the stools or vomit. Still it is usual that one or more of the following signs will be noticed: Nervous irritability, gritting of the teeth at night and "night-mare," foul breath, dry, hacking cough, dark rings under the eyes, a red spot on one cheek, pinched and itching nose, headache, dizziness, sickness of the stomach, irregular appetite, indigestion and diarrhœa. Children may be indisposed and possibly have colic pains and convulsions.

Treatment.—The favorite prescription for worms is santonine, in one grain doses (for children) each night for three successive nights. This causes the worms to die in the intestines and be discharged. Before taking santonine, castor oil should be administered and the child kept upon a light diet, without sugar. The santonine is easily taken, and may be sprinkled upon a cake or piece of bread and swallowed without the child's knowledge. Often the worms will be cut up into small pieces before they are discharged. Santonine causes the urine to become high colored, like saffron. An excellent stomach tonic, suitable for the weakness and dyspepsia caused by worms, may be made of an infusion of equal parts of goldenseal and peach leaves.

Pin Worms.—*Oxyuris Vermicularis*.—These are very small, thread-like worms, about one-sixth of an inch in length, which may infest the human intestines by the thousands. Their eggs have great vitality and are discharged by the million. The chief symptom of pin-worms is the intolerable itching, caused by the worms getting into the rectum and about the anus, often crawling up the female urethra or vagina. Itching is worse at night time.

Treatment.—The most successful method of getting rid of pin-worms is the frequent use of injections of warm water (two or more quarts at a time) containing Castile soap or lime water and borax. The injection must be given slowly with a fountain syringe. Salt water injections are frequently resorted to, and santoline is likewise effectual. The compound syrup of gentian will be found a suitable tonic.

Tape Worms.—Three varieties of tape worms may live and thrive in the human intestinal canal, and attain an enormous size and cause disagreeable symptoms. The embryos of tape worm may enter the body with the food, especially rare meats, and may be derived from various animals, especially hogs and dogs.

Taenia Solium.—This is the most common form of tape worm, and its most frequent means of entering the system is with measly pork. Its head is very small (like a pin-head), and is eight-sided, having four suckers by which it clings to the intestinal mucous membrane. In front of these suckers will be seen two rows of a dozen or more minute claws. The neck is very thin, and about an inch in length, and following it are the segments which make up the great part of the worm. They may be very numerous and in all amount to ten feet or more in length. Each segment is flat and of a whitish appearance; new segments are constantly developed, and the oldest one is farthest from the head and may be expelled, while the others remain. Each segment has both male and female organs of generation, and the eggs are discharged in large numbers.

A developed tape worm may remain in the intestinal canal for a long time without giving evidence of its existence, and may not be definitely recognized until segments have been passed. As a rule there will be nervousness, dilated pupils, paleness, evidences of failing nutrition, uneasiness through the chest and abdomen, and symptoms of intestinal catarrh, and sometimes diarrhœa. There may be frequent faintness and dizziness.

Treatment.—Undertake no specific treatment until segments have been seen in the stools. The following method will prove effectual: Fast for two or three days, on a diet of salt fish and milk; take, on the evening of the last fast day, a large dose of Epsom salts; next morning take, fifteen minutes apart, half a cupful of strong and hot decoction of pomegranite root bark (half a pound to the quart and a pint of water, and boiled twenty minutes). A lemon may be sucked while this is being taken; four half cupfuls are necessary, and it must be hot to avoid nausea. After the decoction is taken allow the patient to lie quiet for an hour. During this period there may be considerable pain and discomfort throughout the abdomen and dizziness and headache. Then administer, in capsules, half a drachm of ethereal extract of male fern, and in an hour repeat the dose. If the bowels have no tendency to move within two or three hours, a large dose of castor oil should be administered. When the bowels do move, the patient should sit upon a vessel well filled with warm water, that the worm may not be broken, and if discharged may be readily cleaned and examined. If the head is not seen, the effectiveness of the treatment cannot be established; but it should not be repeated for several months, or only after segments have shown themselves. Pumpkin seed oil, an ounce, in an emulsion of milk, is recommended, but is not so effectual as the above.

Bothriocephalus Latius.—This is a species of tape worm differing in several particulars from the ordinary variety spoken of as *tænia solium*. Its length may be enormous; specimens over seventy feet long

have been recorded. The segments are broader than they are long, and the head, instead of being eight-sided is flat and oval, and has a fissure on either side to take the place of the four suckers of the *tænia solium*. The eggs have a valve at one end, and they develop in water and are eaten by fishes, and thus the embryos are set free and get into the muscles of the fishes and into the stomachs of human beings. The symptoms produced by this worm in the human alimentary canal are the same as those of *tænia solium*, and its expulsion is accomplished in a similar manner. Tape worms very seldom remain in the intestines over four months without discharges of segments taking place.

WRITER'S CRAMP.

Muscular Inability from Over-use.

This difficulty is peculiar to those who are required to write continuously for a livelihood, or those who constantly use delicate muscles, such as shoemakers, pianists, tailors, etc. Dissipation and poverty aggravate the difficulty.

Symptoms.—These are spasms or tremblings of the muscles of the hand and probably of the arm and shoulders, rendering the use of the muscles impossible until a spasm passes by.

Treatment by the administration of drugs is of itself of little avail. Absolute rest must be enjoined. The discontinuance of existing bad habits is imperative, and diet and surroundings must be such as to invigorate the system. Electricity has been employed to advantage. The compound syrup of gentian is a most serviceable tonic to be used with the hygienic measures mentioned.

Wry Neck.—Occasionally the muscles of the neck become unevenly contracted, causing the head to be twisted or inclined upon its axis. In hysterical or

temporary cases rubbing on the tincture of lobelia and applying hot flannels will suffice. Permanent cases require surgical operation upon the affected muscles.

XANTHELASMOIDEA.

Skin Disease of Infancy.

This is an affection of the skin of children, but seldom met with, and usually mistaken for evidence of syphilis. The origin of the disease is not yet known, and it does not seem to in any way disturb the general health.

Symptoms.—At first various parts of the body may be covered with small elevations, as though flea-bitten; these elevations enlarge, itch intolerably, and resemble hives, and become first red and then dirty yellow and attain the size of a silver quarter. They may make their appearance at birth or soon after, and do not as a rule endure long.

Treatment does not affect them, though careful nursing and hygienic surroundings favor their disappearance. It is well to have a knowledge of this difficulty that its appearance upon an infant may not be mistaken for congenital syphilis.

XANTHOMA.

Skin Disease following Jaundice.

This is a condition of the skin which frequently follows cases of jaundice, characterized by spots of a dirty yellow hue upon the skin or mucous membrane. Simple xanthoma most frequently occurs upon the eyelids, and may spread over the cheeks. The spots are on a level with the skin and cause only unsightliness.

Tuberous Xanthoma consists of raised yellowish spots like a collection of small tubers. They seldom appear on the eyelids, but frequently on the cheeks and over the body, and when they occur on the palms of the hands or soles of the feet they may cause great inconvenience by their burning pain.

Treatment.—Simple xanthoma needs no treatment, but the tuberous form may occasion such inconvenience as to require being cut out by the knife. They cannot be effaced by remedies or outward applications; but their multiplication may often be prevented by persistent treatment for jaundice.

YAWS.

Tropical Ulcers.

This disorder is very rarely met in this country, although it is common in tropical lands. It is very contagious and is not usually fatal, though convalescence is slow.

Symptoms.—The attack is ushered in by a chill, soon followed by fever which has daily periods of remission. Soon small elevations appear upon the face and limbs, reaching the size of a nickel, and in a few days a pustule forms upon this raised spot and soon bursts, causing a scab, and under this scab there is a foul ulcer, with granulations looking like a red raspberry. There may be many such ulcerative spots over the body and they may come and go for months, accompanied by debility, fever and soreness of the throat. Exposure to drafts or imprudencies will cause dropsy.

Treatment.—Use freely infusion of composition. Apply over the ulcers a salve of pulverized myrrh and goldenseal, each one drachm, and boracic acid and capsicum, ten grains, in an ounce of vaseline. Sus-

tain the strength by a nourishing diet and provide rest and fresh air and hygienic surroundings.

YELLOW FEVER.

Gulf Fever. Febris Flava.

This is a disease of warm climates, and unless transported, requires for its development a temperature of not less than 78° uninterrupted for a month's time. The exact origin of the disease is not fully agreed upon, though it can probably be conveyed by clothing and other articles, just as small-pox can be carried. It is most frequent along the sea-coast or on board ships, or in camps and crowded cities. Impure water and malarial surroundings favor its development.

A person who has once had yellow fever is no more likely to have the disease again than one is to have a second attack of small-pox. Persons unused to hot climates, or those of intemperate habits, are most liable to be attacked, and dampness and exposure to night air favor its development. The colored race, for unaccountable reasons, are rarely afflicted by it.

The commencement of an epidemic of yellow fever is marked by the appearance of several sporadic cases not far from one another in a town, and then the appearance of numerous cases "to fill in the gaps." The disease does not spread far unless carried, which makes it possible to restrict its ravages by quarantine.

The West India Isles and the western coast of Africa are designated as yellow fever localities, where the disease may be expected every summer. High altitudes, of over 2,000 feet above the sea level, are free from it. Frost will put an end to a yellow fever epidemic. Vessels, whose sailors are afflicted with it in southern waters during the late fall, if taken to northern waters and frosty weather, will be free from further cases.

Symptoms.—As in most infectious diseases, the symptoms of yellow fever may vary greatly according to

surroundings and circumstances and individual peculiarities. But the average case may be taken as typical, and its symptoms considered; and these may be divided into several stages, as follows:

Development.—This is medically termed the period of incubation, and its average duration is four or five days; though the disease may possibly manifest itself within a few hours after exposure, or be delayed for over three weeks, and the circumstances which control this period of development are not known. Undoubtedly a debilitated and nervous person or one unused to the climate will succumb more quickly than one who is robust and accustomed to the climate, especially if his mind is free from fear of the disease.

Invasion.—As a rule an attack comes on suddenly, very often during the night, the victim being awakened by the severity of the symptoms. There is frequently, but not always, a most decided chill; sharp pains shoot through the limbs and loins; headache is intense; dizziness and delirium are common, and occasionally there will be nausea and vomiting at the start. Fever is soon manifested and in three or four hours the temperature may reach 105° or 106° . The pulse is at first strong and very frequent. The face looks red and the countenance is distressed, while the eyes are red and watery. The tongue at first is broad, white and moist with red tip and edges. Thirst is great and constant throughout the attack, and the less urgent the thirst the more favorable the outlook.

In about twenty-four hours prominent stomach symptoms manifest themselves. There is an oppressed feeling in the stomach accompanied by burning pain and tenderness. Vomiting and retching are frequent and most distressing. At first the vomited matter is not characteristic, but in two or three days it is of a yellow or dark brown color, frequently mixed with mucus and streaked with blood. The vomit may in bad cases look like dark coffee grounds, and in fatal cases may be thick and ropy and almost black, from which comes the term "black vomit," often given to yellow fever.

During the early part of the attack the bowels are usually constipated, but they frequently become free, and their actions are characterized by offensive stools.

The urine in nearly all cases is scanty, and in severe cases it is very high colored and contains albumen, and may be suppressed for awhile.

Great nervousness and restlessness are usual, and in children convulsions must be expected. In very severe cases there may be prostration and stupor. Some cases of yellow fever are characterized by sudden depression and collapse and death, after only a couple of days of fever and ill-defined feelings.

During the stage of invasion the face is usually flushed and the skin dry and hot. Mild cases give a warm and moist skin; but if there is much perspiration without relief of symptoms, it is a bad sign. In from three to five days (the longer the time the milder the case) the period of invasion will be followed by the period of remission.

Remission.—This stage lasts from a few hours to a couple of days, during which time the patient experiences great relief, and there is an abatement of all symptoms. Occasionally convalescence sets in at this time; but as a rule this period of remission is only temporary; the face begins to look yellowish and prostration becomes marked and the disease passes into the next stage.

Secondary Period.—This is usually characterized by an increase of temperature, while at the same time the pulse rate lowers (a bad sign). Nausea and vomiting recommence, the vomiting often being in the nature of hemorrhages; and blood sometimes passes off by the bowels. Black vomit is now usual in severe cases. Hemorrhages are not unusual from the nose and mucous surfaces. The tongue becomes very dry, and may be coated brown or even black, and occasionally it is glossy red and fissured, and the teeth and lips are coated with dark material, termed sordes.

It is during this secondary period that occurs the peculiar condition of countenance which characterizes yellow fever. It commences with a bilious look,

like jaundice, and may become almost an orange or even a bronze color—the darker the hue the more severe the case. The abdomen becomes enlarged and sensitive and the urine high colored and almost suppressed.

Convalescence may now commence by a gradual relief of symptoms. Fatal cases will show great depression, the pulse will grow weak and irregular, there may be involuntary discharges of urine and fæces, delirium may set in or the patient may retain consciousness until death, or a state of indifference may be manifested, soon followed by collapse, cold and clammy skin, stupor and death. As a rule fatal cases terminate inside of twelve days, the sixth or ninth or eleventh day being the usual time of death, but it may be deferred for over two weeks.

Treatment.—During the stage of invasion, when the fever is high, and the skin is dry and hot, perspiration should be induced. Administer every half hour a large dose of infusion of pleurisy root containing a little ginger. Relieve the bowels by injections. Place the patient in bed and to the feet and sides apply hot irons or hot water bags. An ordinary emetic (see emetics) should be administered early in every case. Place over the stomach a flannel cloth saturated with stimulating liniment.

To allay thirst, small chunks of ice may be allowed to melt in the mouth. When perspiration starts, cease giving the infusion and do not use the water bags. Give a light diet of broths or malted milk preparations, and avert nausea by giving hyposulphite of soda.

If there should be hemorrhages and dark and bloody vomit, administer injections of composition containing a little myrrh. Collapse must be treated as recommended under that title. Should the urine be suppressed, place a large flax-seed poultice over the region of the kidneys. Sage tea, or orange leaf tea may be used when the skin is dry. During convalescence the utmost vigilance must be exerted against over-eating and over-exertion. The compound syrup of gentian is the most appropriate tonic.

The warding off of yellow fever depends upon a nourishing diet, fresh air, frequent baths, moderate exercise and avoidance of night air and exposures to the malarial atmosphere of swamps and vitiated air of all kinds.

ZOSTER.

Skin Affections from Nervous Disorders.

Under this general heading are classed a number of skin affections which seem to be due to peculiar conditions of the peripheral nerves. Zoster is characterized by the appearance of small vesicles which have a tendency to run together, and also cause great itching. The contents of the vesicles are at first clear, but soon become yellow, and eventually dry up and leave a thin scab. The vesicles appear in successive crops, of about four to six days' duration each, so that an attack of zoster may last for several weeks.

Herpes zoster is considered in the article on herpes. Zoster zona is another name for shingles. Zoster may occur upon special parts of the body, and is named according to the locality. The limbs, neck, arms, chest, back, face and head may be the seat of the difficulty. It is never fatal of itself.

Treatment must be directed toward soothing the irritation and sustaining the system, as prescribed under Shingles. An attack cannot be aborted by the use of medicines.

DISEASES OF WOMEN.

NEEDLESS OPERATIONS.

How Women are Scientifically Mutilated.

What a field for butchery and for the attainment of fame and money woman has become to the mercenary practitioner of so-called "modern gynecology." It would be interesting, were it not revolting, to trace the history of the treatment of diseases of women by the majority of the medical profession during the past twenty years. Ever and anon some new theory has been advanced to account for the weaknesses and inabilities, the neuralgias, pains, sleeplessness, nervousness and other indications of derangements in the organism of woman.

In man, such disturbances would be traced to various causes, and the special cause ascertained and overcome. But, alas, for woman, whose procreative organs differ from those of man! That difference of organization is made the scape-goat of all diseases, simple or complex, whether they are directly associated with the procreative organs or remote from them.

The womb has been an especial object for reproach by the medical profession. It has been maligned and abused until woman has been led to look upon that poor organ and its appendages as a curse to her existence instead of the glory and blessing that Nature manifestly designed they should be. It is true that the womb, through the nervous system, is closely connected with every other organ of the body, but it is not true, as modern scientific mutilators would have us believe, that every distress of the various organs of

the female body should be ascribed to disorders of the womb.

Some of the fads profitably encouraged by the medical profession are not only absurd but are almost criminal in their methods. Woman has been led to believe that in her case Nature blundered or was unable to maintain that destiny for which she was created, and that it was left to the modern gynecologist, for a fee, to correct these natural shortcomings. A few of the modern fads in the treatment of women may be mentioned:

Scraping the Womb.

This operation is a tedious and most painful one. It has been indiscriminately resorted to under the slightest pretexts and has doubtless laid the foundation for many wrecked lives. But what is a woman to do? She presents herself for treatment before a physician and expects to follow his advice. If he is one of the modern gynecologists, it is impossible for him to recognize any disease or to see any symptoms without the aid of his speculum. He commences his investigations at once by demanding an exposure and indulging in manipulations, revolting to a modest woman, and in the great majority of cases absolutely unnecessary. After this comes the declaration that the whole trouble lies with the womb; instruments of torture are introduced, a fee is collected, and frequent repetitions of this treatment are demanded.

By these "treatments" the inner wall of the womb is literally scraped, liability to hemorrhages is made probable, and in nearly every case chronic inflammation is established. It is a fact that in a few absolutely diseased conditions scraping of the womb may possibly be beneficial; but such cases are few indeed, and in every instance appropriate treatment would prove far superior. Scraping of the womb is a needless and dangerous operation: and when it is not performed for mercenary purposes it is performed because the operator has an insufficient knowledge of the more humane and scientific methods of treating disease. It has been my personal experience to rescue many such

cases from the hands of modern mutilators and restore them to health by rational means.

Cutting the Neck of the Womb.

In due course of time it became evident that such a barbarous practice was not only useless in overcoming disease, but was also of such a revolting character as to prove injurious to business when its nature became generally known. And so another mutilation was "discovered" and given to the medical profession, and its discoverer gained for himself wealth and great notoriety throughout the world before a revolution of sentiment condemned his discovery and shelved it for other butcheries.

His method was to enlarge the neck of the womb by slitting it lengthwise on the inside. It was declared that at last the secret of woman's ailments had been discovered, and consisted in Nature's blunder in forming the neck of the womb upon too narrow a scale. Perhaps, though, she had purposely made this error that the medical profession might find a means of making a livelihood by correcting it. Be that as it may, the new operation was received with delight. Knives and other instruments were devised for the work, and to invent a new form of knife or instrument for this operation was to gain notoriety and self-satisfaction. Medical societies and medical journals discussed the merits and demerits of the various methods and instruments employed in performing this operation, leaving the discussion of results a question of very minor consideration.

And what part did womankind play in this grand discovery? Why, she was, as usual, exposed and tortured and mutilated in the name of science; submitting heroically, yet revoltingly, to what she believed to be the superior judgment of her professional advisers.

After the incisions had been made and commenced to gradually heal, it is apparent that the scars made the passages narrower than ever, unless the edges were kept apart by the insertion of cotton or pieces of sponge (called sponge tents) into the incised neck

of the womb. To insert these tampons or tents required the skill of a physician almost daily, with consequent exposures and the frequent payments of fees. No wonder the profession lauded the operation! In most cases the scars caused inflammations and growths and consequent narrowing of the neck, till again and again the operation had to be performed. In nearly every case the neck of the womb was left as hard as gristle and lengthened by being so often pulled down for operation. And if from these causes the monthly functions were interfered with, then the whole neck of the womb was cut off as a final mutilation, to be pronounced as a radical cure unless cancer should follow such treatment, which is extremely probable.

Stretching the Passage.

A favorite fad among physicians of a certain class is the declaration that the canal in the neck of the womb is too small to allow the escape of the necessary fluids. This has been announced as the great cause of every difficulty the female organism is heir to. And to many women it has been so plausibly represented that their consent is readily obtained to frequent exposures and manipulations with the object of stretching and dilating the canal of the neck of the womb.

To accomplish the purpose, very slender, thimble-like pieces of compressed sponge or sea-tangle, called *tents*, are introduced into the passage and left to swell by absorbing the secretions present and thus stretch the parts. This procedure early became the fashion, and physicians provided themselves with supplies of the *tents* and the various instruments required to insert them, and reaped a harvest at the business of pretending to cure by this method almost every disorder of womankind. Headache, neuralgia, indigestion, liver troubles, palpitations, painful menstruations and innumerable ills were so plausibly traced to this condition that millions of women and young girls have submitted to innumerable exposures and manipulations in the vain hope of securing relief. It does not seem

credible, but it is a fact, that young virgins, whose menses were backward in appearing, were ruthlessly persuaded to violate their modesty and submit to such barbaric practices.

Consider the operation and its consequences from a common sense standpoint. At first the canal of the neck of the womb must be large enough to admit the introduction of a tent, and if large enough for that it is large enough for the escape of fluids, but not large enough to satisfy the barbarous mind of the mutilator. The tents being frequently and repeatedly introduced, inflammations are bound to follow from the harsh pressures and frequent introductions.

And these inflammations lead to swellings, and ulcerations, and purulent discharges and destructions of the parts; all of which require more "treatments" more exposures and more fees. And the results to the patients are what? In, alas, too many cases, cancer and its frightful agonies result, or, at least an absolute failure to correct the original sufferings, with the addition to them of backache, paleness, emaciation, weakness, nervousness and other numerous manifestations of an organism wrecked by mutilation.

Revolting Practices for Gain.

The American people are sympathetic and lovers of peace, and are ever ready to condemn the heartless cruelties of barbarous or monarchical governments. Especially do we point with pride to our respect for womankind and our guardianship over their virtue and modesty. A woman inflicted by dishonor or cruelty or torture never appeals to American citizens in vain. Little do the fathers and husbands and brothers know of the indignities their daughters or wives or sisters are often forced to endure in the way of uncalled for exposures and mutilations to satisfy the notions and the mercenary appetites of modern gynecologists. And why do women submit, and why do not the men know of these things?

Women submit because they cannot help believe that educated men holding State credentials of proficiency in medicine would for mercenary reasons ad-

vise them against their own welfare or persuade them to grant needless exposures to satisfy their "fad." And men know but little of these things because through fear and shame women dread to disclose the impositions made upon their modesty and endurance in the name of science.

I speak plainly upon this subject, as my large experience in all diseases of women has brought to my knowledge thousands of cases where women and virgins have been needlessly subjected to revolting exposures and painful operations, only to be mutilated for life and left in a far worse condition than when they applied for relief.

But not only has it been my painful experience to witness the direful results of these medical fads, but it has been my good fortune to be able to save, by timely interference, hundreds of women and girls from the immodest procedures and the lasting mutilations of the mercenary gynecologists who infest the medical profession.

A few cases are here given that they may be a warning to others, and that they may be the means of awakening in womankind a hope of deliverance from the revolting methods of modern practice.

CASE I.—Mrs. J. W., of Iowa, an educated and refined wife of a prominent banker, aged 35, in apparently good condition, the mother of two children, who were both strong and healthy. For three months her menses had failed to appear, and there was a frequent unpleasant discharge with considerable pain and tenderness; accompanied also by irritability and great nervousness and disturbances of the stomach.

She consulted her family physician, who subjected her to frequent examinations before his "colleagues." They seriously considered her condition, and informed her and her distracted husband that a malignant condition of the neck of the womb was fast approaching the cancerous stage, and advised her being sent at once to a famous surgeon connected with a Chicago hospital. After reaching Chicago the famous surgeon examined her and appointed a day for the operation.

A former patient of mine, being acquainted with her misfortune, persuaded her to obtain my opinion, knowing my opposition to needless operations. I ascertained to my entire satisfaction that her condition was in no way dependent upon malignant tendencies, but was one of the annoying difficulties which often arise during pregnancy. It is hardly necessary to add that the operation was indefinitely postponed, and under appropriate and rational treatment which I gave her she returned home, and was duly delivered of a healthy boy, and has ever since been in the best of health.

CASE II.—At one time a young girl but 15 years of age was brought to me through the kindness of sympathetic friends. Menstruation in her case had not as yet been established and she had suffered all the symptoms common to such cases. Upon presenting herself to a surgeon of high reputation, noted for his skill in operations upon women, she had been induced by direful declarations of her condition and the necessities of the case to submit to a physical examination by the surgeon and two of his assistants, who, after considerable manipulation, informed her and her companion who was with her that she would have to undergo an operation. Her "disease" being stenosis or closure of the neck of the womb, requiring dilatation in order to permit the escape of the fluids.

When she came to me she was trembling with fear and begged that she be not compelled to submit to examination, and this was not necessary. Her symptoms, otherwise ascertained, plainly indicated her true condition. A proper course of appropriate medication soon established menstruation and saved her from the mutilation of a needless and shameful operation.

Taking Out the Ovaries.

The ovaries, situated in the groins and closely connected with the womb, are the most sensitive structures in the female organism, and they are also the most important as far as her sex is concerned. On ac-

count of their extreme sensitiveness they are very liable to be easily affected by disturbances of the circulation or of the nervous system, giving rise to such sufferings as neuralgia, inflammation and congestion, etc., just as other structures are. It is not at all uncommon for excesses of all kinds, mental as well as physical, to cause such disturbances, which by proper care and appropriate treatment may be completely overcome.

But the ovaries being such important organs to the well-being and perfections of the female organism, the idea gained possession of the professional mutilators that the ovaries would present a fertile field for their operations, and they straightforwardly set to work to concoct a theory upon which to base a plausible excuse for their mutilation. It was soon declared that the least inflammation or other disorder of these organs were prolific causes of suffering in all parts of the body. Sick-headaches, back-aches, general weakness, melancholy, hysteria and almost every other form of disturbances was directly traced to these special organs, and they were accordingly doomed to be cast out of the body like evil spirits. And many women were persuaded that all their ills and woes would instantly and forever cease should they but submit to the operation of ovariectomy or removal of the ovaries.

From five hundred to five thousand dollars is the merely nominal charge made for thus destroying the sex of woman, and out of charity, and a desire to increase the number of successful operations performed, these obliging and humane surgeons would, and still do, spay women and young girls for nothing, provided they could be persuaded to submit. And as an inducement to be thus spayed, the comforts of at once and forever stopping menstruation and of avoiding pregnancy were portrayed.

This operation of removing the ovaries is to woman what castration is to man. The latter is a crime if needlessly performed, and the man who has submitted to it is regarded as an object of pity and an aimless and sexless creature. Can it be possible that in this Christian land there are men who for gain or reputa-

tion will so abuse the professional confidence reposed in them as to advise or even countenance the unsexing of woman for any other reason than for the saving of human life? Such a thing is not only possible, but it is a fact only too frequently demonstrated.

It cannot be that men of education and experience are so blind to results as to suppose that removing the ovaries will overcome the disturbances of other organs caused by derangements of those organs themselves. There can be no other motive but a necessary one or a desire for fame to prompt intelligent men to such infamy at the expense of helpless women.

I would not have it understood that this abhorrence of mutilation is confined only to myself. There are in the medical profession many men of ability and experience who view these things in their proper light and who raise their voices in protest against the continuance of such practices. But the motives of the mutilators are too mercenary to be overcome by protests. When one class of operations become manifestly revolting to the public, another is introduced, and usually one of more daring and less regard for the sacredness of womankind.

The great mass of the medical profession are engaged in these nefarious practices, and so determined are they to uphold one another and to endeavor to blind the public to their failures, that in almost every instance of an operation, long before it is possible to definitely ascertain results they proclaim in the journals and newspapers the "success" of their great operation; never failing to give the name and address of the operator and whatever other statements as might serve for advertising purposes. As a rule it is this class of men who clamor for upholding professional dignity by codes of ethics and rigid prohibition of legitimate (paid for) advertisements.

Professional Testimony.

It is extremely gratifying to know that in all branches of the medical profession there are men who cry out against these outrageous operations. Prof.

Bigelow, of Boston, in a paper read before the International Medical Congress, said:

“Who can enumerate the cases in which the abdomen has been opened for supposed ovarian diseases when not a trace of a pathological [diseased] condition was discoverable? Who will write the history of the cases in which perfectly healthy ovaries have been removed without one shadow of improvement in the general condition of the patient? A human being mutilated, deprived of her distinctive characteristics, and rendered miserable! A human life poised between earth and heaven to gratify ignorance or conceit! A human life sacrificed to ambition upon the operating table!”

Is it your life, your wife's life or your mother's life that it is proposed to thus poise between earth and heaven or to sacrifice, upon the operating table, to gratify ignorance or conceit or to satisfy ambition?

Considerable space has been given to this subject of mutilation of women, but it is worthy the earnest consideration of the most thoughtful. It is a subject which has had my closest attention for years, and it has been my good fortune to rescue hundreds from the hands of mutilators and restore them to perfect health without the use of the knife or any sacrifice of their self respect.

When it is of almost daily occurrence for me to be consulted by those who were on the verge of submitting to wholly needless and brutal mutilations, and for me to start them on the road to recovery by the employment of rational means I feel justified in saying, in the name of womanhood, in the name of common honesty, in the name of humanity, defend yourselves, your wives, your daughters, your sisters and your friends from the hands of the professional mutilators of women.

DISEASES OF THE WOMB OR UTERUS.

Cancer of the Womb.

This is a most frightful malady and one that is the constant dread of many women. Still it is not near

so frequent as many suppose. Unmarried women, or those who have never borne children, are the most frequent sufferers, and although cancer of the womb may develop at almost any time of adult life, still it is altogether most frequent after the forty-fifth year and before the sixtieth year.

The causes of cancer of the womb may be any of the numerous circumstances which produce degeneracy of the system. The general causes of cancers of all kinds are given in the article on cancer in the first part of the book. It is a fact that injury to the nervous system, disappointments, deprivations, etc., are closely associated with the development of cancer of the womb. Also impure blood from any cause, hereditary taint or bad habits may predispose to cancer. The eating of pork is especially liable to favor the condition in many. To those who are predisposed to cancer by heredity it becomes most imperative to observe the strictest rules of hygiene.

The exciting causes of cancer of the womb may be injuries or violence of any kind, falls, blows, the wearing of pessaries, using of instruments or harsh means of producing abortion, masturbation, violent or excessive intercourse and even dysmenorrhœa or sudden cessation of the menses.

Symptoms.—It is almost impossible to positively recognize a cancer of the womb when it is at its first stage, for many of the symptoms are such as may be present during other derangements. At first there may be irregular or painful menstruation accompanied by bearing-down sensations and peculiar feelings when the rectum is emptied or the bladder evacuated. Soon after many of the early signs of pregnancy may be noticed, such as morning sickness, pains in the breasts, itching of the genitals and strong sexual desires. Leucorrhœa is apt to be present, the discharge being tinged with blood at times. Melancholy, hysterical attacks and peculiarities of desires are also manifested.

Cancer of the womb is usually situated upon the neck of the organ, and if thus situated it can be seen by examination as a knotted, irregular mass. The

back lip of the mouth of the womb will, as a rule, be found larger than the front lip in such cases. If the cancer is situated within the cavity of the womb, the mouth of the organ will be found open. In the early stages the cancer is not sensitive to pressure and is not painful.

The growth of a cancer may cover a period of several years before it becomes softened and malignant, and during that period there may be no suspicion of cancer, and even a successful and full-termed pregnancy may intervene.

When softening of the cancer once commences it progresses rapidly and spreads in most cases to the adjoining organs, fallopian tubes and ovaries. A discharge is soon a matter of great annoyance. In character it is tenacious at first, but may become greenish or very dark and thin and terribly offensive and acrid, abundant in quantity and scalding to the surfaces of the parts to which it comes in contact. Hemorrhages, often of a dangerous character, may now be experienced. These hemorrhages may come on periodically and at first be mistaken for profuse menstruation. But before long they occur irregularly without any premonition and upon the slightest provocation, such as walking up-stairs, coughing, sneezing, etc. There is then, along with other symptoms, no further doubt of the rapid growth of a cancer progressing. When the blood of a hemorrhage is of a bright red color, there is always danger of "bleeding to death," as such blood indicates that the cancer has eaten through some artery of more or less size.

Pain is a prominent and pronounced symptom of cancer of the womb in its fully developed stages. The character of the pain is peculiarly significant. It is cutting or lancinating and most excruciating while it lasts. It darts and shoots through the loins and groins and in the extreme lowest part of the abdomen. At first such pains come on every month along with periodical hemorrhages, and both coming together may for a time be mistaken for painful and profuse menstruation. But the periodicity soon ceases and pain may be experienced at irregular intervals or almost constantly. And of such agonizing character

are these pains that the sufferer becomes an object of commiseration; she probably endures the most intense suffering that can befall any human being. And with such agony, along with the continuous ulcerative discharges, which become very abundant, and the frequent and profuse hemorrhages, it can well be understood that the patient's whole system breaks down and is soon overwhelmed. Emaciation is rapid and the sufferer is spoken of as being nothing but "skin and bones." A woman weighing over one hundred and fifty pounds can in less than three months' time be reduced to under seventy pounds. The skin loses its elasticity and becomes dry and shrivelled, and at first waxy and then of that peculiar ashy or pale straw color which is peculiar to cancerous patients. At the same time the countenance assumes that agonizing and woe-begone expression commonly known as the "Hippocratic countenance."

In the latter stages of the disease lock-jaw and its associated convulsions may set in, rendering the misery agonizing to the sufferer and most heart-rending to those who witness them. Death under these circumstances comes in its most horrible form.

The sizes that cancers may reach before ulceration sets in vary. In most cases the size of a walnut is attained, though a cancer may reach the size of a goose egg even before it commences to soften. After softening commences the growth becomes very rapid and may reach the size of a child's head. Ulceration and breaking down may commence at any time after the cancer has softened.

Treatment.—If a sufferer is fortunate enough to recognize her condition long before softening has commenced, there is a possibility of a cure being effected, but measures must be most prompt and persistent. The least suspicion of the existence of cancer of the womb should cause a woman to freely consult a skillful physician and submit to a thorough examination. Absolute observance of all the laws of hygienic living should be rigidly observed. Fresh air in abundance, pleasant out-door exercise, well ventilated sleeping rooms, food of a nourishing and wholesome

character, an abundance of pure water, frequent baths of an agreeable temperature and pleasant companionship—all these things must be provided if there is to be any ground at all for recovery.

Medication in the early stages of cancer must be directed toward any disturbances of the system which may be manifested. All through the disease the compound syrup of yellow dock will be found a most excellent alternative, and the stomach must be kept in good condition and the bowels freely open. The "milk diet" is most advisable in advanced cases.

For hemorrhages, the treatment advised for flooding in the article on Profuse Menstruation should be carried out. For the offensive and irritating discharges, obey the treatment advised for the offensive and degenerate discharges mentioned under Leucorrhœa.

Beware of charlatans and submit to operation only upon the advice of and consultation of surgeons whose skill and judgment can be trusted.

Displacements of the Womb.

From many various causes the womb may become displaced from its normal position and occupy a position which will cause discomfort and, if not relieved, may result in disease or invalidism.

Symptoms.—Many of the symptoms that are manifested when the womb is displaced are likewise symptoms of other womb troubles. There may be painful menstruation or leucorrhœa, back-ache, bearing-down sensations, a feeling of fullness and weight in the pelvis, pain in the perineum and difficulty in passing urine or evacuating the bowels, nervous disorders, general weakness and frequent neuralgia. There will be pain during intercourse and usually sterility.

If the womb is thrown backward there will be pain in the lower part of the back, and the body of the organ being thrown against the rectum will cause most obstinate constipation from painful accumulations in the rectum.

If the displacement is forward the body of the womb will press against the bladder, causing a great and constant desire to urinate and perhaps absolute inability to perform the act without the use of a catheter, which often can be introduced only with great difficulty. The chief pain will be felt in the lower part of the abdomen and thighs, also in the back.

By careful examination by introducing the fingers into the vagina, the nature of the displacement may be ascertained. In all cases the side of the womb will be distinctly felt as a smooth and dense body, while the mouth of the organ will be difficult to reach, being high up, either pointing backward, as in forward displacement; or pointing forward, as in backward displacement. In backward displacement the back wall of the vagina will be loose and the front wall tense. In forward displacement the front wall will be loose and the back wall tense.

Some cases of displacement come on suddenly, accompanied by great pain, but most cases come on gradually and the symptoms develop slowly. Not infrequently displacement of the womb may occur during pregnancy, when it should be attended to early, as the constantly enlarging organ makes it more and more difficult to adjust, and if neglected under such circumstances, serious consequences may result. While needless examinations are always to be condemned, still when there is uncertainty as to the precise nature of womb troubles, an early examination may save many years of suffering.

Forward displacements of the womb may be caused by excessive or violent exertion, long retention of fæces in the rectum, retention of the menses, severe vomiting, general weakness, tumors, tight clothing, rupture during delivery, excessive horseback or bicycle riding or anything that may cause engorgement of the womb or relaxation of the tissues surrounding it.

Backward displacements may be caused by long detention of urine in the bladder, violent laughing or coughing, jumping or sudden falling or stepping down unawares, long riding with the bladder full, blows on the abdomen, tumors and ruptures and various similar acts or conditions.

Treatment.—First of all it is absolutely necessary for both the bladder and rectum to be evacuated before attempting replacement. An injection should unload the bowels, and the urine may need to be drawn off by means of the catheter.

In mild cases of short duration all that may be necessary will be to place the fingers into the vagina and find the mouth of the womb and then insert one finger into it and, by slightly bending the finger like a hook, pull the organ into its natural position. If the displacement be forward the patient should lie upon her back and have the thighs flexed upon the abdomen. Sometimes a woman may be able to produce replacement unaided, by lying on the floor on her back with the thighs up against the bed and remaining in that position for possibly half an hour; thus relieving pressure of the bowels downward against the womb and allowing that organ to fall into its natural position by gravitation. At any rate, this position will render replacement by manipulation much easier.

Should the displacement be backward the patient should assume what is known as the ‘genu pectoral’ position, that is, she should place herself upon her knees and breast so as to place the pelvis as high up as possible so as to aid replacement by gravitation.

Backward displacement will usually require manipulation. If insertion of the fingers into the vagina will not suffice, they should be inserted into the rectum, and pressure thus made.

After the womb has been returned to its proper position treatment must be as advised for prolapsus or falling of the womb (which see).

Dropsy of the Womb.

Dropsy, of whatever nature, is a collection of serous fluid in a cavity of the body. The lining of the womb secretes a serous fluid, and when the mouth of the womb becomes closed from some one cause or another, the serous fluid is extremely liable to accumulate in the womb and cause dropsy. Tumors are frequent causes of dropsy of the womb, though irritations or nervous conditions may cause contraction of the mus-

cles of the womb and thus retain the serous fluid. Dropsy is not infrequent during pregnancy, and when it then exists, the abdomen may grow to enormous size.

Anything that causes a low grade of inflammation in the womb may be a cause of dropsy. Kicks or blows or falls upon the abdomen, the improper use of pessaries or the unskillful introduction of the uterine sound or other instruments, the improper use of instruments during labor, the performance of abortion, etc., may all be mentioned as causes of that low grade of inflammation which is apt to result in dropsy; especially if the system is run down.

Symptoms.—There are no positive signs at first to distinguish uterine dropsy from pregnancy, but as a rule there will be loss of appetite, nervous debility, indisposition and increasing paleness.

The usual signs of early pregnancy are present—swelling and tenderness of the breasts, nausea or morning sickness, bearing-down sensations and a progressive enlargement of the abdomen. There may be no suspicion of anything but natural pregnancy until the time of quickening arrives, when failure to recognize it will cause suspicion of other conditions. Sometimes the weight of the fluid in the womb will be sufficient to excite contraction or force aside the obstruction and be discharged in a few weeks, and then accumulate again, and again be discharged.

But in other cases the fluid may not at all escape, but continue to increase until the womb enlarges to such an extent as to threaten rupture, which occasionally does occur. As a matter of course the health will fail rapidly under such conditions and this fact alone should cause suspicion that pregnancy may not exist. Fortunately, dropsy of the womb is far more frequent with married women than with single women; for when an unmarried woman does suffer from such a dropsy she cannot avoid scandal being circulated concerning her which is hard to bear until time proves pregnancy impossible. And should the fluid be discharged before the time when delivery is to be

expected, it will be extremely difficult to ever hush up the circulated scandal in a satisfactory manner.

Treatment.—In all cases of dropsy the system will be so much run down that the most rigid adherence to the rules of hygiene must be observed. Out-door exercise of not too excessive a nature must be provided; if walking is out of the question, then carriage-riding must be substituted, but horse-back and bicycle riding must be prohibited. Cheerful and sunny rooms must be provided, and the sleeping room must be well ventilated and be such a one as will have the sunlight enter it during the daytime. The food must be nourishing and plentiful, but always plain. Spices, stimulants and alcoholic liquors must not be taken. The clothing should not be excessive, but it should always be comfortably warm, for chilling of the surface under such circumstances would be disastrous. The feet must be especially protected from cold. The bowels should be moved twice a day and never be allowed to become constipated. The liver pills mentioned in the formulas will be found best for this purpose. Stimulating liniment should be rubbed over the abdomen night and morning, and sensitive persons should protect the abdomen from cold by wearing flannel over it.

It is important to ascertain the primary cause of the dropsy, and if possible, direct treatment to overcoming it. If a tumor is present, it should be removed, or if the lungs, or heart or stomach should be affected, the proper steps for relief must be taken. Tonics are in all cases absolutely necessary to invigorate the system. The administration of spiced bitters (see formulas) will be found most beneficial. The skin will usually be found dry and harsh and will require frequent drinks of composition containing pleurisy root, which will produce a perspiration that should be maintained if possible. In all dropsies the skin can be advantageously taxed to relieve the body of excessive fluid. It is far wiser to drive the skin than to force the kidneys to over-exertion. Eating freely of boiled onions will usually increase the flow of urine sufficiently; though a little dwarf elder may be used

with the spiced bitters. Mullein leaves made into an infusion and used freely will aid the absorption of fluid. To promote the action of the skin there is nothing so effective as a vapor bath. It is very easy now to procure an apparatus for home use, and for dropsy of the womb its use twice a week cannot be too highly recommended. If the vapor bath is not used, then hot hip baths should be frequently employed.

In obstinate cases it may be necessary to use vaginal injections of lobelia and lady-slipper, and take such measures as will excite the womb to activity; for instance, the use of the emmenagogue pills, mentioned in the formulas.

Such treatment should cause the fluid to be discharged within a couple of weeks after it is commenced. When relief has been secured, the system will be found weak and run down, for which the female restorative (see formulas), should be given, and general hygienic measures adopted to build up the strength. Fluids should be taken sparingly and foods should be of a solid character, nourishing, but not stimulating. It may take several months to regain perfect health after dropsy of the womb.

Falling of the Womb. Prolapsus.

The womb is held in position simply by ligaments and soft tissues, and it is therefore easily subject to displacements of position, and the more so when the system is deranged in such a manner as to relax the structures surrounding it. One of the most common of all the displacements is prolapsus, or falling of the womb. It is liable to occur to any woman; though the married are the ones most frequently subject to it, especially if they have borne children or are of a lymphatic temperament or have been worn by disease or over-work or nervous strain. It is also very frequent in women who have been mutilated by instruments during delivery or by having the after-birth forcibly removed.

The remote causes of falling of the womb are very numerous, and include all forms of diseases or influences which cause a relaxation of structures. Danc-

ing, excessive walking, tight clothing and bad habits often cause the difficulty. Too frequent child-bearing and too free marital indulgence are frequent causes. Bicycle riding at or about the menstrual period is also becoming a prominent cause of prolapsus.

Symptoms.—Falling of the womb may vary greatly in degree and present diversified symptoms, and the temperament or state of general health of the woman afflicted will likewise influence the symptoms and the degree of suffering endured.

The womb may be lowered but one or two inches, and this is most usually the case. In such instances there will be experienced a pronounced feeling of weight or dragging in the groins and the fundament, accompanied by pain in the small of the back and the lower part of the abdomen. These symptoms will be aggravated by walking or over-exertion and at all times proves very weakening. In the vagina there will be experienced a bulging and weighty sensation, and by inserting the fingers, the womb may be very readily felt as a firm and movable tumor. Pressure of the organ against the bladder and the rectum may cause difficulty of urination and produce constipation. Not infrequently such a condition of affairs, through sympathetic action, will result in nausea and headache. With some women there may be a marked falling of the womb into the vagina with very few unpleasant symptoms, while with others the least degree of prolapsus may cause intense suffering.

In some instances the degree of prolapse is very pronounced, the womb itself actually protruding into the outer world, dragging along with it the walls of the vagina and the ligaments, and occasionally the bladder. Of course in all such cases the suffering is very great and accompanied by most pronounced prostration. The dragging sensation may become unendurable and cause a sense of tingling or numbness in the small of the back. Hemorrhage may occur, and not infrequently it will be impossible to prevent the urine from constantly dribbling. The womb soon becomes dark and greatly swollen and tender, and even ulceration may result. Leucorrhœa or "whites" is

extremely liable to prove annoying, and in cases of long standing, the discharge will become acrid and irritate every surface it comes in contact with. The menses may make their regular appearance. It is evident that such a condition will surely affect the whole system. The nerves especially will become deranged, and hysteria and melancholy are apt to follow. In most severe cases the sufferer will be compelled to abandon ordinary pursuits and remain mostly off her feet.

Treatment.—It is very frequently supposed that local injections of strong astringents will of themselves effect a permanent cure. But such is not the fact, for there are many things to be taken into consideration. First of all, the remote causes of the difficulty must be ascertained and removed as far as possible. Scrofulous persons should use freely the compound syrup of yellow dock (see formulas). In all cases attention must be given to invigorating the system. The most nourishing diet must be used, fresh air must be provided in abundance and cheerful surroundings afforded. Constipation is best relieved by glycerine suppositories, as cathartics are inadvisable. If the hands and feet are cold frequent drinks of composition tea may be used to advantage. Injections of "Distilled Sweet Clover" against the womb will be found cleansing and very beneficial. As a general tonic the female restorative (see formulas) will be pleasant and useful. Vaginal suppositories containing oak bark and a little myrrh, made into regulation size, with cocoa-butter, should be used each night. Cold hip baths, where they can be endured without discomfort, will often prove beneficial as also will cold packs about the hips. Sometimes prolapsus will occur suddenly, which may cause nausea or complete fainting. In these cases restore the patient to consciousness by the methods directed for "Fainting," and then administer compound spirits of lavender or ginger or other diffusions, and then proceed immediately to restore the womb to its proper position, for delay will cause the organ to swell and render its adjustment most difficult. Let the patient lie on the back with the limbs separated

and the knees drawn toward the abdomen. Cover the hands and the parts with vaseline or lard and firmly, yet gently, press the womb into its proper position.

If the organ has been protruding for hours replacement becomes far more difficult. The bowels must be moved freely by enema and the bladder must be emptied by using the catheter. Then an injection of lobelia infusion must be thrown into the rectum and retained as long as possible, and lobelia mixed with lard applied to the womb so as to reduce the swelling. Then proceed as described to effect replacement.

When the womb has been placed into its proper position perfect quietude on the back must be maintained for a few days. The astringent suppositories named should be inserted and held in position by tampons of cotton.

There are many devices invented for holding the womb in position, known as pessaries. Some of them are elastic rings, inserted by bending them and then allowing their elasticity to keep them in position. Others are made of hard rubber and are cup-shaped, held in position by a wire in the vagina, fastened to another wire secured to a waist-band. Pessaries do not of themselves cure the difficulty, but are a convenience in certain cases. Their use may increase the relaxation. They should never be worn about the menstrual period, and should be removed at night. Before inserting a pessary evacuate the bowels and bladder and wash out the vagina with an antiseptic solution.

Fibroids. Fibrous Tumors.

From causes not as yet fully recognized, tumors of a fibrous character are apt to develop in the walls of the womb, and possibly attain an enormous size. They very seldom appear before the age of thirty or after the change of life. They develop very slowly, and when of large size they often give the appearance of pregnancy, though as a rule the enlargement of the abdomen caused by them is more to one side than general. Fibrous tumors have frequently been mistaken for pregnancy.

Symptoms.—In general nearly all the signs of pregnancy will be produced by a polypus or fibrous tumor. There will be suppression of the menses, enlargement of the breasts and abdomen, nausea, colic pains, swelling of feet, and limbs, cramps, constipation and irregularities of urinary discharges from pressure. The bearing-down pains are greater in the polypus than in pregnancy. There is apt to be falling of the womb, and in some cases menstruation may not cease. In many instances the health does not become greatly impaired, and the tumor may cease to develop after it has reached a certain size. In all cases of polypus it is impossible for pregnancy to go to full term. It is always important when such signs as described are observed to definitely ascertain as soon as possible whether they are due to pregnancy or fibrous tumor, and this will require a most thorough and skillful examination when it is not known that pregnancy is expected.

Treatment.—The system must be sustained by hygienic measures and tonics if necessary. Marital indulgence must be forbidden and all things avoided which have a tendency to excite the womb. The bowels must be kept open, but not by violent cathartics. Spontaneous or remedial cures are impossible, but removal by surgical operation is often resorted to.

Flexures of the Womb.

The womb is liable to be bent upon itself in various directions, the neck of the organ remaining in nearly its natural position, while the body inclines forward or backward, or to either side. The symptoms are very much the same as those described in the chapter on displacements of the womb, and the treatment also similar. As a rule the exact form of flexure and its extent cannot be ascertained without the use of the uterine sound, and that instrument is usually necessary to correct the difficulty. Sometimes the flexure is trifling and temporary, but nearly all cases of long standing or pronounced flexure will require skillful adjustment.

Neuralgia of the Womb.

This is a distressing malady, although not especially serious in its nature. It is most common to persons of rheumatic tendency, and may, indeed, be regarded as a species of muscular rheumatism. It is not especially associated with menstruation and does not come on periodically.

Neuralgia of the womb is caused by exposure to cold or dampness, especially during menstruation. Laundry work at the time of menstruation is a frequent cause. Excessive marital indulgence, dancing, bicycle riding and sudden cooling off while perspiring will often result in neuralgia.

Symptoms.—Sharp and frequent pains in the region of the womb and in the loins will be experienced for hours or days at a time, accompanied by dragging sensations in the pelvis and a feeling of heat within the lower part of the abdomen. There will be sensitiveness upon pressure and the pain will not be constant in one spot. Desire to urinate and to evacuate the bowels will be constantly urgent and painful. Bodily or mental exertion will increase the difficulty, and relief seems to be obtained only by perfect quietude and listlessness. The suffering is most excruciating in character and may continue for months.

Treatment.—Perfect quietude must be enjoined under all circumstances and an endeavor made to divert the flow of blood to the surface as quickly as possible during a paroxysm. For this purpose use an infusion of four parts of pleurisy root and one part each of ginger and black cohosh, to be taken hot every half hour in half-cupful doses for several hours. Put hot irons or hot water bottles to the feet if they are cold, and every three hours give an injection to the bowels of an infusion of lobelia, lady slipper and scullcap; over the abdomen rub stimulating liniment, and see to it that the bowels are freely evacuated. Such a course should give prompt relief. After relief has been obtained from paroxysms, the utmost care must be taken against their return. Pain may suddenly cease and then suddenly return again.

Persons subject to neuralgia of the womb should seek a climate free from rheumatic influences and lead a quiet life. It is well to take a soothing and strengthening tonic, such as the Mother's Cordial (see formulas), to which fluid extract of lady slipper should be added. Distilled water should be drunk abundantly, to which may be added three grains of citrate of lithia to a glassful. In lieu of this the Buffalo Lithia water may be used. The clothing must be warm, and changed according to the changes of the temperature as often as necessary.

Hydatids.

These are small sacs, filled with liquid, which occasionally develop in the womb during pregnancy. They may be very small or may appear like clusters of grapes. In some instances they may break and be discharged during early pregnancy and a natural pregnancy continue. In most cases hydatids grow to great size and destroy foetal life and are expelled between the fifth and eighth months. Though it is not unusual for hydatids to remain in the womb for several years.

The signs are those of early pregnancy. When they are expelled early there will be a gush of clear or straw-colored liquid and the foetus may follow or remain to develop. In later stages hydatids are discharged as an abortion would occur and must be treated in the same manner.

Inflammation of the Womb—Acute.

At any time during adult life a woman is liable to have inflammation of the womb from various causes. Among the many causes may be mentioned exposure to cold or chilling the body during the menstrual period, the use of irritants to produce abortion or the employment of purgatives, displacements of the womb of all kinds, injuries to the abdomen, excessive horse-back or bicycle riding, the insertion of instruments and preventives, dancing, or walking, or exercising to great excess, too frequent or violent marital indul-

gence and similar actions which excite the nerves of the pelvic organs and induce an abnormal flow to the parts.

Symptoms.—The form of inflammation of the womb which sometimes follows delivery and is known as child-bed or puerperal fever is fully described in the article on child-bed fever. Simple acute inflammation is not so severe or dangerous. The symptoms are a pronounced chill at the outset, soon followed by fever of varying degree, not high, as a rule, although the pulse becomes very rapid in most cases. Pain in the lower part of the back and in the region of the womb and possibly in the thighs will usually be experienced. In some the nervous system suffers greatly and neuralgic symptoms are pronounced. Faintness, nausea and vomiting are not infrequent. The parts involved become exceedingly tender, the vagina is hot and sensitive, and the womb enlarges and is exceedingly tender to the touch, even through the abdomen. The enlarged and inflamed womb affects adjacent parts. Evacuations from the bowels become painful and constipation is marked, and the bladder becomes sensitive, causing a constant desire to urinate, the act itself being painful. Headache is an almost constant symptom, and in protracted or severe cases the tongue becomes coated and there are indications of general depression throughout the system.

Treatment.—Quietude in bed and an even temperature of the room are of the first necessity. After the chill has passed by, and it will be of very short duration, administer freely an infusion of ginger, one part, and pleurisy root, three parts, in order to promote outward circulation. At the same time apply stimulating liniment over the abdomen and keep hot irons to the feet until the whole body is in a warm and moist condition and the extremities more than warm. The bowels should be moved twice a day by the use of a mild laxative—pills and violent cathartics being injurious and often of themselves a cause of inflammation.

Should the menses be suppressed, the treatment must be as advised for suppressed menstruation (see

amenorrhœa). It may be several days or weeks before an attack of acute inflammation of the womb subsides. It is rarely dangerous (except during confinement), though if neglected it may run into the chronic form. The diet must be light and nutritious, and the laws of hygiene strictly observed.

Inflammation of the Womb—Chronic.

The causes of chronic inflammation of the womb are the same as those of the acute form; although it is more liable to be caused by displacements of the organ or other conditions whose effects are slowly produced. It is also a frequent result of improperly treated or neglected acute inflammation.

Symptoms.—There will be a bearing-down feeling in the pelvis with pain in the back and groins, and the patient may “feel as though something was coming out,” and have sensations common to falling of the womb. The menses may or may not be interfered with, though the symptoms usually are pronounced between the menstrual periods.

In the chronic form of inflammation the nervous system is usually greatly affected. There may be irritability and melancholy or even hysteria. Cramps and neuralgia are common and spells of palpitation may be frequent and annoying. Constipation is marked, and evacuations from the bowels and bladder usually cause considerable pain.

Treatment.—Hygiene and care are essentials for recovery. Quietude of mind and body must be enjoined, but not to such an extent as to cause indolence; for the thoughts must be kept upon cheerful things and out-door fresh air is an absolute necessity. The bowels should be kept open with very mild laxatives, and the bladder may be soothed by drinks of cleavers or marsh mallow root. Nerve liniment should be rubbed over the lower part of the abdomen and small of the back, and sponge baths, agreeably warm, should be used frequently. Occasional feverishness may require the use of infusions of pleurisy root con-

taining a little ginger. The following will be found a most excellent preparation for these cases:

Take Pleurisy Root.....two parts.
Marsh Mallow Root.....two parts.
Camomileone part.
Lady Slipperone part.

Mix, and drink as a cold infusion every two hours.

After the suffering has been relieved the Mother's Cordial (see formulas) will be excellent as a tonic taken before meals. It may take months for recovery to follow chronic inflammation of the womb.

Congestion of the womb presents very much the same symptoms as inflammation, though more depressing in character, and not involving so much sensitiveness. Treatment is very much the same, though more decided stimulants should be applied.

Inversion of the Womb.

Literally, inversion of the womb is that condition where the organ is inside out. This may be partial, as is most usual, or complete, which is rare and exceedingly dangerous. Several causes may produce this condition, the most frequent of which is forcibly detaching the after-birth in confinement. This procedure is fraught with so much danger in so many ways, such as hemorrhage, inversion, inflammation, incomplete removal, leaving particles to putrefy, etc., that it is strange that such a brutal practice is still followed by many physicians who follow the dictates of "authority" whether they agree with common sense or not. Violent efforts at expulsion during labor, or the improper use of instruments, or too short a cord may likewise cause inversion. Again, a tumor of large size situated in the womb may, by its weight, in falling into the vagina, drag the wall of the womb with it. Dropsy of the womb and any other condition that relaxes the walls of the organ may result in inversion. The condition is always a serious one, and

if neglected or improperly treated, will result in lifelong invalidism, if not death.

Moles. False Conception.

In frequent instances, on account of shock or accident or other reasons, a pregnancy which has started normally may not proceed. The fœtus very early ceases to develop correctly and forms a mass, often vaguely resembling a fœtus, soft and bloody in character, which is usually discharged about the second or third month, though sometimes going to "full term," or nearly so, though not usually developing to a size beyond that of a large apple.

The symptoms are the usual signs of early pregnancy and there are no means of recognizing moles from pregnancy, unless they remain beyond the fifth month when absence of quickening should cause examination. Hemorrhage is likely to occur at the time of expulsion.

Polypus of the Womb.

From causes not always to be ascertained tumors may grow in the womb or at its entrance, known as polypi (singular, *polypus*). They usually develop very slowly and attain varying degrees of size—some being but as large as a marble and others larger than an ordinary crooked-neck squash. A polypus is rather firm in consistence and is covered with mucous membrane and contains blood vessels which permit of its growth. Sometimes so great is the growth of a polypus that pregnancy is suspected, and not infrequently such a condition is the cause of humiliating scandal.

Symptoms.—The existence of polypus is rarely suspected until it has obtained considerable size; although examination for suspected womb troubles of a very different nature may reveal a polypus. Among the symptoms may be mentioned a discharge of mucus, pus and blood, offensive in character, followed by frequent hemorrhages which may prove quite exhausting. Menstrual irregularities will become frequent, and the

general health will fail and the sufferer become pale and very weak. Bearing down sensations will be experienced, and palpitation, weak pulse, nausea, faintness and swellings of the feet and limbs may occur. In some instances, when the polypus has existed for some time, its presence will excite contraction of the muscles of the womb, which may cause severe pain and be so violent as to break the neck of the tumor and allow of its spontaneous contraction. Sometimes the tumor will close the mouth of the womb and hinder the discharge of menstrual fluid, which will then accumulate and undergo decomposition and cause serious troubles. The tumor may descend into the vagina and grow so large that it will drag down the womb and cause prolapsus or falling of that organ. Hemorrhage is a constant symptom of polypus.

Treatment.—A surgical operation is the only means of removing a polypus. The operation is not a severe or dangerous one and is uniformly successful. In no case should operation be delayed in the hope that nature will expel the tumor unaided.

When hemorrhage is severe the directions given for excessive menstruation must be followed. At the time of hemorrhage the patient must lie down and use the diffusive drops or other stimulating agents. A drink of raspberry and goldenseal infusion three or four times a day will be beneficial until the operation is performed.

Ulceration of the Womb.

Any thing or act which irritates the neck of the womb may cause an inflammation followed by congestion and ultimately result in ulceration. Married women may suffer from this difficulty in consequence of excessive or violent marital intercourse, or as a result of wearing pessaries for womb troubles, or mechanical contrivances for the prevention of conception. Likewise harsh vaginal injections may be the cause. Young girls or unmarried women may bring about an ulcerated condition by the insertion of instruments for the purpose of pleasurable excitement, or they

may suffer ulceration as a consequence of sudden suppression of the menses producing congestion.

Symptoms.—Ulceration itself cannot occur suddenly. In all cases there must first be a period of congestion, manifested by more or less suffering. This period may extend over weeks or months before the ulceration. There will be a sense of fullness in the pelvis and dragging down sensations. Intercourse will be painful and usually there will be tenderness in the region of the womb and sensitiveness or irritable itchings of the external parts. These symptoms are soon accompanied by shivering sensations becoming frequent and followed by hot flushes. Soon after these symptoms a leucorrhœal discharge will be noticed, which will increase in quantity and be streaked with blood and pus, and usually becomes offensive, and may be, in bad cases, acrid and irritating to surfaces in which it comes in contact. Such a condition will surely affect the general health, causing great weakness, paleness, loss of appetite and irritability or prostration of the nervous system. The ulceration itself may not be extensive, and is usually in small spots over the neck of the womb, but if not promptly attended to may continue for months and prove exhausting and is extremely liable to result in serious inflammation of the womb.

Treatment.—It is, of course, best to check the difficulty before it reaches the ulcerative stage, but this is rarely done, because the first symptoms are usually thought to be trifling and are thus neglected. Could they be recognized and attended to promptly, the difficulty could be readily overcome. Keep the bowels freely open with mild laxatives, rub stimulating liniment over the lower part of the abdomen and use a vaginal injection four times a day of Distilled Sweet Clover, avoid excessive exertion and forbid marital intercourse. After ulceration has made its appearance add to the Distilled Sweet Clover a small amount of myrrh and goldenseal, and sustain the strength by using the female restorative three times a day. (See formulas).

MENSTRUATION.

Menses. Periods. Monthlies.

All healthy women have a blood discharge from the womb periodically once a month from the time when the procreative organs are fully developed until they lose their powers of procreation. This period usually extends over thirty years, sometimes more and sometimes less; usually commencing at the age of fifteen and ceasing at the age of forty-five. In warm climates menstruation may commence at the tenth year, and in cold climates it may not commence until the twentieth year.

Habits of life may alter the period when menstruation commences. Weak girls or those reared in luxury, or those who over-excite their brain and nervous system by sensational reading or false methods of life are apt to menstruate early. While, on the other hand, girls of quiet habits and free from sensational ideas, and those of strong physique and not over-sensitive natures may not menstruate until very late, possibly not until the twentieth year.

It was long supposed that the menses were controlled by the changes of the moon, as many women menstruate at the new or full moon, and the function is performed naturally every twenty-eight days. But menstruation may occur at any time of the month, and the periodical return, like the periodicity of many other natural performances, must be classed as a law of nature.

Natural menstruation should last from three to five days every month. The amount of blood passed at each period is rarely less than a small teacupful and seldom more than a large coffee-cupful (from four to eight ounces). Less than the smaller amount should be considered as deficient menstruation, unless the person is very small or weak or anæmic. More than the larger amount named should be considered as excessive menstruation, unless the person is large or full-blooded or lymphatic. The smaller amount named would likewise be a deficient quantity for the latter class of women; and the larger amount men-

tioned would be excessive for women of the other class.

What is menstruation? This is a question very frequently asked and very simply answered. The blood which is discharged from the womb by developed women not pregnant or nursing, is the blood that would otherwise be used in developing the fœtus in the womb, or in forming the milk for the new born babe. Nature thus makes provision for procreation, and whether or not this provision is utilized depends upon the individual. All through the menstrual (or catamenial) period of life pregnancy will cause this blood to be used rather than discharged. In some cases, especially during the early months, a slight menstruation may continue during pregnancy; apparently more blood being furnished than is necessary. In full-blooded persons this should not occasion alarm; but in feeble or anæmic persons it is not a good sign and should be corrected.

The blood discharged during menstruation differs from ordinary blood only in the peculiarity that it does not coagulate. With some persons the discharge is very offensive, which necessitates the use of mild disinfectants. In all cases it is absolutely necessary to health that cleanliness be observed. The napkin used to receive the discharge should be frequently changed, and the part washed with warm—never cold—water. An odorless disinfectant, such as Platt's Chlorides, will be found best when any such article is needed, and the napkins may be saturated with this.

Let it be remembered that while menstruation is a natural act, the system at such a time is disturbed in such a manner as necessitates the greatest precautions against exposures or extra exertions. Fatigue of mind or body or catching cold during menstruation may cause serious trouble and lay the foundation for future invalidism. Ordinary duties may and should be performed, but excesses of all kinds, trying journeys, dancing, long walking, bicycle riding, and other similar acts should be avoided. The system at such a time has a natural strain put upon it and cannot endure, without injury, indiscretions of any character.

Establishment of Menstruation.

When the procreative organs of women have reached that stage of development which enables them to fulfill the functions for which they were designed, the menses will usually make their first appearance. This period of life (the age of puberty, or "the first change of life") is one of the most trying in the life of woman, and much of her future physical well-being depends upon the care exercised at this time. Mothers should warn their daughters at this time and not allow false modesty to leave such facts to be spoken of first by inexperienced or frivolous classmates, or to be learned accidentally in a manner which might shock or injure the body for all future time.

A young girl approaching her first menstrual period will evince some marked peculiarities, which should be recognized and dealt with properly. For a time she will be mentally unaccountable for her words and actions. She is apt to be exceedingly irritable and peevish, of hasty temper and most excitable. She may appear cruelly unkind or perverse, and again she may be very affectionate and sensitive to impressions. No dependence can be placed upon the state of her mind, and she should not be censured for her peculiarities. Headache at this time is most usual, and with it comes drowsiness and perhaps dizziness and a confused feeling with absent-mindedness or loss of memory. Many girls become most stupid and awkward in manner and commit all sorts of blunders for which parents, ignorant of the facts, will harshly condemn them. Falling to sleep over their work or in conversation, dropping dishes or other articles and a hundred and one other unnatural acts may be committed without intention. The appetite at such a time is extremely apt to be peculiar and unaccountable. What will be relished one day may be detested the next, and dainties or improper foods of all kinds may be demanded. It is not unusual to find such girls eating chalk crayons or slate pencils or drinking vinegar, and their appetite for pickles is apt to become insatiable.

Tardy Menstruation.

It very frequently happens that menstruation is not established at the time when it should be expected. This may be the occasion of much alarm and unless the reasons therefor are fully understood, measures may be taken which might result in disastrous effects. The causes of delayed menstruation may be summarized as follows:

IMPERFECT DEVELOPMENT.—In some instances all the signs of puberty or “the first change of life” may manifest themselves and do so in a most regular manner, and still the menses do not appear, and unpleasant symptoms are soon noticed, such as paleness, weakness, severe headaches, poor appetite, palpitation and hot flushes. Sometimes a discharge of mucus (whites) may take place and prove exhausting, and again the girl may fall into the condition known as green sickness (see Chlorosis). These undersirable conditions may sometimes be caused by great grief or disappointments coming at the age of puberty, or by improper living or insufficient food. Over-worked girls, such as are employed in stores, factories, etc., and girls who are aimless on account of wealth and lead indoor lives, are the ones most likely to experience imperfect development. The consequences of this condition are serious unless early overcome, and not infrequently marasmus or consumption will follow.

Treatment.—Under no circumstances should drugs be relied upon to meet this condition of imperfect development. Mothers make a great mistake in supposing that the girl may be “brought around all right” by the use of emmenagogue pills or other means calculated to force the system. Force is not required in these cases, and is absolutely harmful.

First of all provide such hygienic surroundings and employ such measures as will give nature every opportunity to bring about the usual condition of the system. Provide sunlight, and plenty of it; fresh air unabapuni nce; plain and wholesome food; plenty of re wdentar; bed-rooms well ventilated, pleasant com-

pany and wholesome and interesting reading, and complete rest from study. Do not treat the girl as an invalid, but recognize her condition and its requirements. Be sure that the clothing is regulated to the seasons, and that extra wraps are worn when chilly changes of the weather occur. Keep the feet warm and dry and enforce the rule of "early to bed and early to rise." Keep the bowels open by some mild laxative, and for cold feet bathe them in hot water containing a little red pepper.

In severe cases (and only severe ones) give each night a drink of camomile and motherwort infusion, containing a little ginger. When it is evident by pains and otherwise that the menses are about to appear, a little black cohosh may be added to the infusion. Such a course will prove fully sufficient.

EXCESSIVE DEVELOPMENT.—Some girls who are very full-blooded and robust may experience considerable trouble when the menses should first appear. The face may be flushed, the pulse full and strong, the breasts tense; there may be headache and pain in the back and possibly a sense of fullness in the lower part of the abdomen.

Treatment.—Keep the bowels freely open by a saline aperient, such as Rochelle salts; forbid stimulating foods; allow very little meat. Have tepid baths taken every other day and provide out-door exercise of a vigorous nature. At the time of approaching menstruation give infusion of pennyroyal and black cohosh, and hot foot baths. Let the body have opportunity to work off its surplus energy.

FEEBLE DEVELOPMENT.—Sometimes girls may more than reach the time of menstruation and yet there may be scarcely any signs of a change taking place. The breasts and figure and voice may remain unchanged; and the internal organs may not yet be fully developed. As long as there is good health such a condition need cause no alarm; and no treatment whatever should be given beyond allowing plenty of fresh air, wholesome food, pleasant employment and

cheerful surroundings. Never try to force the system under such circumstances, and do not allow the girl to imagine there is "something wrong." There is nothing wrong as long as the health is good, even though the menses do not appear until after the age of twenty. If they never come, the reason may possibly be absence of the womb or other malformation.

DISEASE.—Girls who are consumptive, or who have constitutional diseases of specific origin, such as congenital syphilis, or girls who have serious diseases of the liver, or other organs, are extremely liable to have their menses retarded by the impossibility of the womb being fully developed under such conditions.

In such cases it is worse than useless to use emmenagogues or other agents to force the system. The best that can be done is to endeavor to remove the constitutional disease, which is a doubly difficult task at this time. It very frequently happens that women who have long menstruated will experience suppression from diseases of various natures. Under all such circumstances emmenagogues should not be used.

MALFORMATIONS.—There are occasionally instances of malformations retarding the menses. Sometimes the hymen will be imperforate. This may be suspected when there is full development and periodical attacks of pain in the back and pelvis accompanied by swelling and tenderness of the abdomen and unpleasant feelings afterward. Such circumstances should warrant an examination and the slight operation necessary to correct the trouble.

In rare instances there is what is known as "atresia of the vagina," where that canal is closed its entire length, or part of its length, operation is then a necessity.

Absence of the womb and absence of the ovaries are conditions which may be mentioned, but they are very rare. Occasionally the labia are sealed together, and will necessitate a slight operation. But all such circumstances are curiosities and might not be met once in ten million cases.

EARLY IRREGULARITIES.—It is most frequently the case that after the first appearance of the menses, they may not appear again for two, three or more months. Nothing wrong may be suspected under such circumstances, as it is most common. See to it that fresh air, good food, cheerfulness and appropriate exercise are all furnished, and as long as the health continues good there is no cause for worry, for Nature will work in her own way and at her own time to accomplish her purposes.

It sometimes happens that uninformed girls are frightened at the first appearance of the menses, and strive to check the flow by bathing in cold water. Such a procedure is often the cause of serious trouble ever after.

Painful Menstruation—Dysmenorrhœa.

There is no more universal form of suffering endured by women than painful menstruation. There is scarcely a woman living who has not suffered in this manner at some time, and there are many who suffer regularly and intensely at every period from puberty to the "change of life." There are many causes of dysmenorrhœa, the chief of which is imprudency at some time at the period of menstruation, usually exposure to cold or excessive exertion. Rheumatism, neuralgia and ulceration of the womb, grief, excitement and excessive marital indulgence are also causes of dysmenorrhœa, often of an obstinate character.

Symptoms.—Usually one day, and possibly two or three days, before the discharge makes its appearance, there will be pain in the back and loins and lower part of the abdomen, sometimes extending down the thighs. This pain varies in character and duration in different persons. Some suffer but a few hours before relieved by the discharge, and others suffer for several days, and the suffering may continue while the discharge takes place little by little. With some the suffering is accompanied by constipation, nausea and sensitiveness of the stomach and great irritability of mind; while others may not have these accompani-

ments. Faintness, headaches and neuralgia may likewise occur; and some suffer tenderness and swelling of the breasts and abdomen.

At first these distressing circumstances are not of long duration, but, if left unattended to, dysmenorrhœa becomes a matter of great concern, many women suffering a week or possibly two weeks at each period; making half their lives times of agony. Frequently during painful menstruation the blood will be discharged in clots and occasionally mingled with shreds.

Treatment.—Be sure that the bowels are freely open as the menstrual period approaches, and for three or four days before the attack use a hot hip-bath twice a day and drink freely of camomile or motherwort or blue cohosh or smart-weed or pennyroyal or feverfew tea, and these teas may be continued during the painful periods. Relief may also be obtained by using large injections of lady slipper, containing a little lobelia, in starch water. It is usually best to lie down while the suffering is intense; although some find most relief by sitting upon a chamber vessel partly filled with a steaming infusion of lobelia.

By far the most certain means of securing relief is to make an infusion of equal parts of lobelia herb and lady slipper in hot olive or cocoanut oil and when cool dip into it small rolls of cotton with strings attached, and insert one such roll of cotton up against the mouth of the womb every twelve hours; removing them by the attached string.

But relief at the time of pain is not the only aim to be sought, the prevention of further attacks by completely overcoming the difficulty should be most desired. Accordingly a course of treatment must be planned and diligently pursued, perhaps for months. Of course hygienic regulations, proper food, fresh air and moderate exercise are imperative. The compound lirioidendron syrup (see formulas) will meet most cases. If there is sluggishness the compound syrup of Mitchellia will be preferable. If the liver is greatly at fault, as will be manifested by sallowness and constipation, the liver pills should be employed. Chronic

diseases, which complicate dysmenorrhœa, must be ascertained and appropriately treated.

Excessive Menstruation—Menorrhagia.

It has been stated that women differ in the amount of blood discharged at menstrual periods. But when, in an individual case, a woman discharges much more blood than is natural for her during a menstrual period, it may be called profuse menstruation or menorrhagia. The excessive quantity may be discharged in the usual period of time, or the discharge may continue more days than usual, or the periods may be at intervals of three, or even two weeks. In any case the excessive loss of blood cannot but be weakening to the system, and if repeated will surely result in injury, and menorrhagia, unless remedied, will almost surely increase in severity.

Causes.—Women of vigorous habits who are full blooded, often suffer from menorrhagia, as also do women who are debilitated or whose tissues and organs are relaxed. Scrofulous persons or those suffering from diseases of the kidneys or liver are also prone to the difficulty. Poor food, bad habits and too long nursing of an infant may likewise favor menorrhagia.

Among the immediate causes of profuse menstruation none is so common as force in labor. The usual methods of delivery by the aid of forceps, and the hurried removal of the placenta by force cannot be too highly condemned, and thousands of women are rendered life-long sufferers by these acts of professional barbarity.

Excessive marital indulgence is also a very frequent cause of profuse menstruation, and a most unpleasant one, as thereby the organs are rendered sensitive and congested. The use of stimulants and excesses of all kinds are likewise common causes of the difficulty. But whatever may be the cause of menorrhagia the results must be disastrous, bringing about impoverishment of the blood and great loss of strength.

Symptoms.—There may or may not be an extraordinary amount of pain at the menstrual period, but the

amount of the discharge will be materially increased, and will usually be recognized as brighter in color than normal and immediately followed by a more complete sense of prostration than common.

Excessive menstruation cannot continue without most marked effects of the loss of blood being soon made manifest. There will be paleness and great prostration, and a sense of inability to perform accustomed labor. There will be short breathing and frequently derangements of the stomach and bowels. The countenance in time becomes pinched and dark rings come under the eyes; and often there is extreme sallowness. The brain eventually feels the loss of nourishment through a deficient supply of blood and there will be intense headaches, dizziness, faintness and, in occasional cases, epilepsy. The nervous system becomes irritable and sensitive, and the enfeebled circulation is manifested by a weak and rapid pulse; while the heart frequently "flutters" after the least exertion. Sometimes there will be dropsy about the ankles and limbs; and not infrequently leucorrhœa (whites) will be annoying between the regular periods. In protracted cases or in women of feeble constitution, or those of very plethoric condition who suffer profuse menstruation, there is liability of a sudden and very severe hemorrhage endangering life. Elderly women who have long had menorrhagia are apt to have displacements of the womb—that organ falling over against the bladder and causing unpleasant symptoms in connection with urination. Thus in many ways menorrhagia or excessive menstruation makes life miserable and breaks down the system.

Treatment.—General treatment for excessive menstruation must be directed according to the cause of the difficulty and the physical condition of the patient. Women of delicate constitution must be allowed every opportunity to gain strength. Fresh air, very nourishing food, cheerfulness and pleasant surroundings are indispensable. The feet must be kept warm at all hazards and the limbs well clad. Exercise must be very limited and never violent. Vigorous rubbings of the hips and back are useful. In the way of medi-

cines there is, perhaps, no better preparation for this condition than "Elixir of Pepto-Mangan," that designated as "Gude's" being especially valuable. The female restorative bitters, mentioned among the formulas, will be found very useful. The stomach may likewise demand attention. Sucking babes must be weaned if possible.

Persons of plethoric habits should pursue an opposite course. With them it is necessary to prevent over-stimulation and over-nourishment. Food must be wholesome but not stimulating and devoid of spices and coffee. Exercise is a necessity though extremes of heat and cold and in all things must be avoided. The bowels should be kept freely open—the saline cathartics being best suited for this purpose in these cases; Rochelle salts being most excellent.

Hemorrhage.—In case of sudden and profuse hemorrhage, which may endanger life, manifested by continuous gushes of blood, cold hands and feet and fluttering pulse, action must be prompt. Place the patient on the back, without a pillow. Bathe the feet and limbs in hot water containing mustard or red pepper, rub them dry and wrap in blankets. Put hot irons or hot water bottles to the feet and hips. If possible to secure it promptly give every ten minutes for an hour three-drop doses of oil of erigeron (flea-bane) on a little sugar. Any of the following may be used advantageously:

A strong tea of alspice, or an infusion of black pepper in teaspoonful doses. These may be most handily prepared.

A strong infusion of composition, given in one-fourth cupful doses every twenty minutes is a most valuable means of stopping the hemorrhage.

Witch hazel, raspberry leaves, bayberry, tannic acid, kino, or any other strong astringent with red pepper will answer.

If the patient grows very cold and the lips and nails look blue no time can be lost. The strongest medication must be used promptly—red pepper tea every five minutes will not be too much. Every effort must be

made to get the circulation equalized by urging the blood to the surface and extremities.

It may be necessary to use vaginal injections of astringents (without the stimulants). Never use cold water injections or applications of any kind.

After an attack of hemorrhage or of unusually profuse menstruation the patient should be kept absolutely quiet and allowed to sleep as much as possible and to talk only as a necessity. Strengthening nourishment must be taken as soon after the attack as possible. The recumbent position, with the head low, must be maintained for two or three days; and before the next period the general treatment advised must be carried out.

It must be remembered that profuse menstruation is not infrequently a symptom of some disease of the womb, such as tumors, cancers, etc. When such conditions are suspected no time should be lost in submitting to a thorough examination that the proper treatment may be commenced.

Suppressed Menstruation—Amenorrhœa.

It is well understood that the menses usually cease when conception takes place and do not occur again during pregnancy, and possibly not until several months after delivery—sometimes not until the child is weaned. Also the menses fail to appear at the change of life. But often when neither one of these conditions is present other causes may result in the suppression of menstruation. Some of these causes may bring about a sudden cessation, in which case there will be *acute* amenorrhœa. Other causes may be slow in affecting the function and produce *chronic* amenorrhœa.

ACUTE AMENORRHŒA.—This condition is almost invariably the result of catching cold about the time the menses should appear or during menstruation. Getting the feet wet, taking cold baths, sitting upon the ground, wearing improper clothing, drinking excess-

ively of cold fluids, and exposures of any kind which chill the surface are extremely liable to prevent or check the flow. Another cause of suppressed menstruation is sudden or profound mental strain, such as may be caused by great worry or grief or excitement. It may be mentioned that any of these causes may manifest themselves between the periods and be followed by suppression. Often, also, during the course of disease the menses may fail to appear properly and thus aggravate the general difficulty.

Symptoms.—In light cases there will be a dragging sensation about the hips and thighs and lower part of the back, accompanied by considerable pain in the lower part of the abdomen and back, and slight feverishness or flushes. In more severe cases all these symptoms are aggravated, and there may also be intense headache, usually on the top of the head, and dizziness and impaired eyesight. Sometimes pain will be of a neuralgic character, both in the head and in the womb, causing intense suffering. Not infrequently the stomach will be very sensitive and food or the thought of it will produce nausea or vomiting, often bile and mucus being vomited. The mental faculties are affected, and there will be inability to read or even listen to conversation. Occasionally there will be a partial paralysis manifested. In scrofulous persons, or those of consumptive tendencies, an inflammation of the lungs is extremely liable to occur in severe cases, caused by exposure to cold or to dampness. Others may suffer from inflammation of the bowels or of the womb itself, and the abdomen may be greatly distended and the breasts enlarged. In nearly all cases there will be a marked indisposition to mental and physical labor, and some palpitation of the heart, and under the eyes dark rings will appear, and the feet will be cold. Nervous persons, and especially those suffering suppression from nervous strain, are liable to serious outbursts of hysteria, sometimes closely resembling mania in their characteristics. Leucorrhœa, or the whites, may follow suppressed menstruation, and when abundant will give relief, although it is not a desirable outcome. In some cases

vomiting of blood may occur and abatement of distress follow.

Treatment.—It is necessary to ascertain the cause of suppression. If it is due to exposure to cold, the first aim must be to equalize the circulation by getting the blood to the surface and extremities. By all means place the patient in bed and keep her there until relief is secured except when it is necessary to apply treatment requiring otherwise. In mild cases placing hot irons or water bottles to the feet and administering freely a strong and hot infusion of pennyroyal will suffice. This is an old-time method, but none the less valuable. Our grandmothers often manifested far more ability to aid Nature in her efforts than do most of the modern physicians skilled in the nomenclature of bacteriology and the administration of poisons. Their household remedies for suppressed menstruation have never been excelled for ordinary cases. Among them may be mentioned motherwort, blue-cohosh, sage, thyme, tansy, camomile and summer savory. If there is pain and swelling in the abdomen, place over it flannel cloths wrung out of hot ginger infusion, or apply stimulating liniment. A favorite method of many is to sit over a vessel containing a steaming infusion of tansy herb. Never administer tansy oil; it is often lauded for its efficiency, but it is absolutely dangerous. In all cases the bowels should be moved freely; by injection is best. For this purpose ginger and boneset infusion will be found suitable. After suppression has been relieved some mild physic may be given.

Nervous cases—those caused by mental strain—should be given diffusive drops (see formulas) in an infusion of lady slipper, and perfect quiet enjoined. If there is great nervousness manifested give an injection of lady-slipper containing a little blue cohosh, made with starch water and retained as long as possible, and repeated every three hours. In addition, keep the feet warm and relieve pain by the outward applications mentioned. Hysterical cases must be treated as recommended in the article on Hysteria.

After treatment of suppressed menstruation must be in accordance with the causes.

Suppressed Menstruation—Chronic.

There are a great many causes for this condition, for anything which brings about a general enfeeblement of the system may result in the chronic suppression of the menses. Scrofula, consumption, anæmia, marasmus, spinal diseases, cancers and tumors are most frequent causes of chronic amenorrhœa. Womb troubles, tumors, congestions, inflammations, etc., and diseases of the ovaries and appendages of the womb are also common sources of suppressed menstruation. The difficulty is also often the result of imperfect recovery from acute attacks of amenorrhœa, growing more and more obstinate as the periods pass by and finally becoming chronic.

Symptoms.—Paleness, listlessness, and a melancholy disposition gradually become more and more pronounced. The patient will in time lose flesh and look tired and haggard, and become sensitive and irritable and lose strength to perform the ordinary duties of life. Headache and pains through the back and limbs become almost constant, the appetite fails and the consequences shown by these untoward manifestations soon become alarming in their character. Such symptoms may all be present from simple chronic suppression; but when other diseases are present the difficulty is greatly aggravated and the complication of symptoms vary according to the nature of the other disease. With lung troubles the dangers of suppression become of most serious apprehension.

It must be mentioned that occasionally during suppressed menstruation the abdomen gradually enlarges, very much simulating pregnancy, and the breasts may also enlarge and the nipples darken as during pregnancy. In such cases it is of the utmost importance that a rigid examination be made and the true nature of affairs ascertained. Many a virtuous girl or woman has had slander breathed against her wrongfully on this account, and also many pregnant women have had

their lives endangered by diagnosing pregnancy as simply suppressed menstruation. Tumors and other conditions of the womb are also frequently mistaken for cases of suppression. It is manifest that such mistakes may lead to serious blunders in the way of treatment.

Treatment.—When there is no serious disease present and the case is one of simple chronic suppression, persistent treatment in the right direction will secure a permanent relief. Be sure to keep the bowels open by a mild laxative; the butternut syrup (see formulas) will be found serviceable; two evacuations daily should be the rule. Stimulating liniment, containing a little tincture of lobelia, should be applied to the spine and lower part of the abdomen twice a day. As a tonic the following will be found excellent:

Take Motherwort.....*eight ounces.*
Goldenseal.....*two ounces.*
Camomile.....*six ounces.*
Blue Cohosh.....*four ounces.*
Ginger.....*one ounce.*

Mix, and make into a syrup as directed in the chapter on Formulas.

Take of this a tablespoonful before each meal. At the time when the menses should regularly appear, the directions given for acute suppression should be carried out. In all chronic cases every effort must be used to build up the system, and all remedial measures must be aided by hygienic regulations. In fact perfect hygiene is absolutely necessary and as valuable as remedies. Let the diet be extremely nourishing, but avoid all rich foods. There are so many health foods upon the market now that a choice variety can always be obtained. Whole wheat flour should be used for bread; oatmeal and various cereals should be eaten freely. Tea and coffee must be forbidden, but cereal coffee may be taken in place of it. There are many varieties to be had, but if the patient is remote from stores and does not wish to send to headquarters, browned barley will prove an excellent sub-

stitute for the coffee bean. Eggs, especially raw eggs, with cream, should form a goodly portion of the diet. Animal broths and tender meat (except pork) are allowable. Plenty of fresh air should be provided; exercise in the sunshine, sleep in well ventilated rooms, cheerful companionship, frequent bathing in water of an agreeable temperature and pure water to drink are the greatest restoratives to health.

Harsh agents, such as aloes, to bring on the menses, and blue mass to evacuate the liver, should not be used under any circumstances. All such forcing measures are absolutely harmful in their after effects. Savine, oil of tansy and the harsh emmenagogue pills so freely advertised may bring about quick results, but they do so at the expense of the general health and make matters much worse in the long run.

Fleshy persons of bilious temperament will usually require the frequent use of the liver pills, and the occasional employment of injections to the vagina composed of infusions of goldenseal containing a little borax and tincture of myrrh.

When the menses become more regular, the tonic and hygienic measures should be maintained for several months; for it is an easy matter to lose ground.

When suppressed menstruation is due to diseased conditions the difficulty becomes a serious matter, and requires skill in diagnosing the conditions present. The disease existing must be, as a rule, treated appropriately before the amenorrhœa can be remedied. But in consumption, cancer and allied difficulties the restoration of the menses is much desired as a measure of relief and should be accomplished if at all possible.

When it is evident that suppression of the menses is due to nervous or mental strains, such as over-study, grief, excitement, melancholy, etc., medication will be of little avail unless such causes are removed, and the first efforts must be made in that direction. The hygienic regulations now become doubly imperative, and the mind and nerves must be soothed in the gentlest manner. Never make an invalid of such persons, but do not go to the other extreme and scold at their peculiarities; such a course is ruinous. Cheerful associ-

ations, fresh air, nourishing diet, proper clothing and light exercise will accomplish wonders, and very little medicine will be required.

Vicarious Menstruation.

This is a peculiar and not very frequent condition of affairs, and is apt to prove very alarming to those unacquainted with the possibilities of menstruation. It is the discharge of blood at the menstrual period from some other part of the body than the womb, and is immediately preceded by suppression. Not infrequently the stomach will be the source of exit for the blood which will be vomited and thus afford relief, or the lungs may throw it off. Sometimes blood will be discharged with the urine from the bladder, and again it may be from the bowels. In some women the nose will bleed profusely at the menstrual period, and the menses scarcely make their proper appearance, if at all. Cases have been observed where the discharge escaped from the nipples, or even from the eyes, ears or gums. A few instances are recorded where the blood oozed slowly from the pores of otherwise healthy skin. In all such cases it is extremely rare for the discharge to be excessive in amount, although occasionally when it occurs from the nose or lungs it may amount to a weakening hemorrhage.

All such extraordinary discharges of blood at the menstrual periods should be promptly attended to, for allowing such unnatural processes to continue cannot fail to injure the system and cause the regular performance of the menstrual function to be easily interfered with.

Treatment.—The cause of vicarious menstruation being the suppression of the menses, it must be treated between the periods precisely as a case of suppressed menstruation. At the time of the unnatural discharge little can or should be done unless the hemorrhage is of such a nature as to endanger the life or cause weakness. If from the bowels, treat as directed for hemorrhages from the bowels (which see); if from the stomach or lungs, treat as directed for hemorrhages

of those organs. In all severe cases endeavor to equalize the circulation. Place hot irons to the feet and hips and thighs. Administer Diffusive Drops every half hour or oftener. Stimulate with composition or capsicum infusion; and if from the bowels, administer injections of raspberry or kino infusion in starch water.

LEUCORRHOEA.

Whites. Fluor Albus.

This condition, often spoken of as female weakness, is the bane of woman's life. Very few, if any, women escape suffering from it at some time. It is essentially a mucus discharge of somewhat viscid material from the vagina. While it is often associated with menstruation, yet it may occur to any female. Very young infants occasionally suffer from it as they would from a cold in the head; and old women, who have long since passed their change of life, may be great sufferers from it; though in the latter instances it is usually a symptom of some serious malady, such as cancer, especially when the flow is persistent.

Leucorrhœa can scarcely be termed a symptom of any disease, although it is present during the course of many maladies. It may also occur at any time from exposure to cold or dampness, on account of the blood being driven in from the surface and thus causing congestion of the mucous lining of the vagina or womb, just as catarrh of the nose or throat is caused.

In some cases the discharge comes entirely from the womb, although in most instances it is confined to the mucous membrane of the vagina. Fleishy persons, or those who lead lives of luxury, are most frequent sufferers, but nervous persons and those in want are extremely liable to be affected.

Leucorrhœa may also follow violent exercise, such as excessive bicycle riding, horseback riding, long walks, etc., also it may be caused by masturbation or excessive martial indulgence. Worms and various

forms of rectal troubles likewise are frequently accompanied by leucorrhœa.

Symptoms.—It must not be supposed from the name of “whites” that the discharge of leucorrhœa is a white discharge under all circumstances. Such is not the case. The discharge may be clear, very much resembling egg albumen, and such is apt to be the case in the early stages of the disease. The amount varies, and cannot be definitely ascertained, some having merely enough to prove annoying as excessive and sticky moisture, while others will flow extensively. Again, the color may be white and the discharge come in spurts containing curd-like particles. Sometimes there will be a thin and acrid discharge; so acrid, in fact, as to inflame the parts and produce intense burning and itching. In cases of long standing or those associated with other disease or with low vitality, the discharge is apt to be yellowish or even dark yellow or green; sometimes of creamy consistence and at other times thin and purulent. When the secretion is white and glairy it indicates that the mouth of the womb is affected.

As a rule, acute leucorrhœa does not last more than a week or ten days at a time, but may return at the next menstrual period. Pain is not pronounced beyond a dragging sensation in the pelvis and pain in the loins. But acute cases, unless corrected, soon run into the chronic form, and then the symptoms gradually grow more and more pronounced and the general health fails. The face grows pale and hollow-eyed and the lips look bloodless; the feet and hands grow cold and often clammy. Constipation is pronounced as a rule, and there is a general feeling of lassitude and not infrequently the structures become so relaxed that falling of the womb aggravates the condition. In many cases of long standing the discharge becomes very offensive.

Treatment.—In all cases it becomes absolutely necessary to ascertain the primary cause of the disorder before proper treatment can be undertaken.

In acute cases perfect quietude is essential, and the patient should remain in bed until relieved. Nearly

all acute cases are caused by exposure to cold and require much the same treatment as an ordinary cold. Should there be feverishness an infusion of pleurisy root and ginger may be taken to advantage. The bowels should be freely moved. Marsh mallow root or flax-seed tea should be used freely when the urine is scalding. If the parts are dry and burning anoint them with cocoanut oil containing a very little lobelia oil. In acute cases astringent injections should not be used.

The diet must be rigidly plain and free from spices. Pure water should be used in abundance, and employ a luke-warm bath not oftener than every other day. In all cases keep the feet warm, and, if necessary, bathe them in mustard water. Out-door exercise must be taken in moderation, and too much sunshine cannot be enjoyed. The sleeping room should be light and well ventilated, and the clothing at all times worn loose.

But, unfortunately, all chronic cases of leucorrhœa do not present a simple aspect. Where the case is especially degenerate, and the stomach seems inactive and foul, as indicated by a heavily-coated tongue, and the liver is sluggish, which may be known by marked constipation, it will be most advisable to commence treatment with a stimulating emetic, and then repeat it every week as long as the stomach and liver show signs of torpidity. The liver pills, taken in large doses every night, may be required to keep the bowels regular until the system becomes able to perform its functions normally. The following is a most excellent compound to use.

Take Columbo.....two ounces.

Goldenseal, Unicorn root,

Solomon's Seal, each....one ounce.

Prickly Ash.....one-half ounce.

Orange Peel.....one-fourth ounce.

Mix, and make into a syrup as directed in the article on Syrups, and use three times a day.

When the discharge is offensive, tincture of myrrh should be added to the vaginal injection, and if the

discharge is tenacious, the vagina should be thoroughly cleansed by weak Castile soap and water injections before the medicated injections are used.

In chronic cases, treatment must be persistent and always in accordance with the primary cause. If the patient is scrofulous, the compound syrup of rumex containing blue cohosh may be used. If the stomach is deranged, aid that organ as directed for Diseases of the Stomach. If the liver is manifestly deranged, treat accordingly.

Most cases of chronic leucorrhoea in their earlier stages may be easily cured by appropriate treatment and rigid adherence to hygienic regulations. Use scullcap, goldenseal and blue cohosh either in infusion or in syrup form. Keep the bowels open by a mild laxative. As a vaginal injection use twice a day the following:

Take White fluid Hydrastis.....two ounces.

Boraxone-half ounce.

Distilled Witch Hazel extract, one pint.

Mix. Use about an ounce each time in a pint of lukewarm water.

DISEASES OF THE OVARIES.

Dropsy of the Ovaries. Ovarian Tumor.

Ovarian dropsy is a frightful difficulty, and is an accumulation of fluid in a membranous sac about the ovary. The sac may be single or there may be a multitude of sacs joined together, usually spoken of as "cysts." The character of the fluid contained in the ovarian sacs may vary greatly. In some instances it is clear and thin, while in other instances it may be opaque and viscid or even dark or bloody looking or greenish. The amount of the fluid contained in these cysts may be but a few ounces, but generally more; and if not removed early the accumulation may amount to gallons. Cysts weighing sixty or seventy and even over one hundred pounds have been removed. The chief dangers from ovarian dropsy are the drain upon

the general system and the unnatural pressure upon adjacent organs.

Symptoms.—As ovarian dropsy is usually preceded by chronic inflammation of the ovaries the symptoms of that malady (which see) are, in most instances, the ones first noticed. But ovarian dropsy may advance so slowly as to be imperceptible until the cyst has enlarged sufficiently to be clearly visible upon examination. As a rule, the first pronounced symptom following those of chronic inflammation will be an acute and lancinating pain in the groin, which will be of short duration, but return frequently. At this time there is likely to be a feeling of heaviness in the groin and pelvis, which increases with the growth of the tumor.

In nearly all cases the menses are regular, although they may cease, and the condition of affairs may be mistaken for signs of pregnancy, especially as there is apt to be nausea and morning sickness, unnatural appetite, spells of palpitation and shortness of breath, frequent desire to urinate and difficulty and distress during urination and movements of the bowels. Constipation is usually marked.

Enlargement of the abdomen, or rather one side of it, commences after the tumor has reached considerable size and progresses slowly, eventually occupying the whole abdomen. In some cases this enlargement has been similar to the enlargement of pregnancy and has been mistaken for such, and has caused great alarm when nine, ten or more months have passed without delivery. But such cases are rare, for in nearly all instances years must elapse before the tumor reaches the size of a pregnant womb.

In many cases there are sharp pains in the tumor, but the chief distress will be occasioned by pressure of the sac upon various organs. This pressure causes inflammation which results in adhesions, possibly between the bowels, womb, bladder and fallopian tubes. These adhesions, as will be readily comprehended, hold these organs together in such a manner as to forbid freedom of movement, and thereby occasion pain; making it necessary for the sufferer to maintain as

great quiet as possible, thus increasing the difficulty by hindering much needed exercise.

Early in the course of ovarian dropsy, if the condition is suspected, and before the tumor is externally apparent, its existence may be recognized by manipulation—one finger being inserted in the vagina and the other in the rectum. After the tumor has attained considerable size, if its walls are thin, the fluid may be distinctly recognized by its fluctuations. But fluctuations may not always be felt; for the walls of the sac may be thick or the tumor may be composed of numerous cysts, or the fluid may be jelly-like. In such cases the abdomen will be hard or firm.

It is evident that such a condition existing in the pelvic cavity, along with the disorders of digestion and the obstructions of the liver and bowels must cause serious alterations in the health of the sufferer. Such is the case. Paleness and progressive emaciation are inevitable.

Pressure on the veins in the pelvis cause swelling of the feet and limbs, which may amount to dropsy. Pressure of the tumor upward is sure to interfere with respiration, and breathing may become very difficult, and suffocation seem imminent at times when the patient is lying upon the back. In nearly all cases ovarian tumors continue to increase in size until death or surgical operation is the alternative. In a few instances a tumor may reach a definite size and so remain for many years. In a very few instances well formed ovarian tumors lose their contents by absorption. But no reliance can be placed upon the stated abilities of persons to cause absorption of these tumors after they have been fully developed. Occasionally, when a tumor consists of multiple cysts, one or more of the cysts may burst and be discharged internally; this is a good sign if the fluid is of a harmless character, but should the fluid be acrid or otherwise irritating, or poisonous, its discharge into the abdominal cavity would be highly dangerous.

Treatment.—In all cases the patient will dread an operation and desire to be cured by the use of medicines, or to be enabled to delay the operation as long

as possible. At any rate, it is always advisable to do all possible toward keeping the system in good condition, and if the development is not arrested by proper medication, the chances of speedy recovery after an operation may be greatly enhanced. Hygienic regulations must be rigidly and persistently maintained. Fresh air and sunshine should be enjoyed in abundance. Out-door exercise, within proper limits, should be taken with regularity. Horse-back and bicycle riding must be absolutely prohibited. The diet must be light and very nourishing. Tea and coffee and spices must be abandoned. Cereal coffee and the health foods will be found most serviceable, along with fruits and succulent vegetables. The sleeping room must receive sunshine during the day and be well ventilated at all times. Clothing should be loose and properly adapted to the requirements of the seasons. For the constipation use the preparation mentioned for constipation during chronic inflammation of the ovaries, and use the enemas of warm water in the morning if the laxative preparations are not sufficient. A liniment composed as follows should be used twice a day over the abdomen:

Take Tinct. Capsicum.....one drachm.
Tinct. Mullein.....three ounces.
Oil Origanum.....one drachm.
Alcoholfive ounces.

Mix.

Whatever difficulties of the stomach or other organs arise must be properly attended to. An expert surgeon should be consulted, and preparations made for an early operation, which is in nearly every case successful.

Inflammation of the Ovaries—Acute.

Any women may become a sufferer from acute inflammation of the ovaries, but the difficulty is most frequent between the ages of twenty-five and forty. As a rule but one ovary is affected, although both may be involved.

The causes of ovarian inflammation are similar to those of inflammation of the womb, such as violent or excessive exercise, like dancing, or bicycle or horseback riding beyond moderation, sudden suppression of the menses by exposure to cold, marital excess, attempts at abortion by instruments or harsh agents, blows on the groin, tight clothing, the wearing of surgical appliances, etc.

Symptoms.—There will be pain and tenderness in the groin of the affected side. Sudden pressure may cause a feeling of faintness or nausea. Pain may shoot down the leg even to the toes, and will be intensified by standing or walking. Urination may be scalding and painful, and evacuations from the bowels may cause much distress. Menstruation will become irregular and painful, and inflammation of the womb may be present at the same time. There will be no swelling in simple inflammation of the ovary, but if neglected, dropsy or suppuration may ensue, and ovarian tumor of a serious character may develop.

Treatment.—In acute inflammation of the ovaries the method of treatment depends upon the severity of the case. When the symptoms are not mild in character they may be overcome by perfect quietude in bed, hot water bottles or irons to the feet and tablespoonful doses every hour during the day of an infusion of pleurisy root, two tablespoonfuls; feverfew, one tablespoonful, and ginger, one teaspoonful, to a pint of boiling water. Over the abdomen rub stimulating liniment three times a day, and keep the bowels freely open by injections of warm water or by the use of mild laxatives. Great care must be taken lest too early rising from the bed or undue exercise should aggravate the difficulty.

Severe cases of inflammation of the ovaries require much more vigorous treatment. The circulation must be generalized and drawn from the pelvic organs. The infusion just mentioned should be given as often as every quarter of an hour, and a free perspiration be thereby induced. A luke-warm injection to the bowels should be given every four hours, consisting of

one teaspoonful each of lobelia and boneset in a pint of slippery elm infusion. This injection should be retained as long as possible. The stimulating liniment should be bathed over the abdomen every three hours; and while the intense pain continues, flannels wrung out of very hot water should be placed upon the abdomen as hot as can be borne, and changed frequently. If the feet are cold, as is likely to be the case, hot irons must be used, and these or hot water bottles should also be placed along the thighs. The bowels must be kept freely open by mild laxatives. If there is much fever and the skin continues dry, a warm sponge bath will be of advantage. Delirium, accompanied by furred tongue and sudden swelling of the abdomen, would indicate a serious condition, to be treated as directed for Child-Bed Fever.

Inflammation of the Ovaries—Chronic.

Chronic inflammation of the ovaries may follow the acute form of the difficulty, or may advance insidiously from other circumstances such as have been mentioned as causes of the acute form of inflammation. With the married, too frequent child-bearing is a prolific cause, and among the unmarried, checking of menstruation and improper dressing often cause the trouble, and it must also be stated that masturbation frequently results in chronic inflammation of the ovaries, and such cases are not rare.

Symptoms.—In addition to mild manifestations of all the symptoms of acute inflammation of the ovaries the chronic form will usually present many other disturbances, such as dragging or bearing down sensations, extreme weakness, pain in the back and loins, distress during urination or evacuation of the bowels, and mental and nervous disturbances. Melancholy is apt to be very pronounced, or there may be spells of uncontrollable hysterics. The conduct of the patient may be most aggravating to those who do not understand her condition—ill-humored and hard to please will be her conduct. In many cases the stomach becomes deranged and indigestion most marked. There

may be spells of severe palpitation, and perhaps cramps of a violent nature. The most severe paroxysms of symptoms are usually experienced between the menstrual periods and are not associated with menstruation. It may be possible for the whole train of symptoms to abate and be absent for months and then return. This fact often causes many to be neglectful and to defer medication until it is realized a serious difficulty has developed. It may then be too late to avoid dangerous consequences.

Treatment.—Rest and a light but nourishing diet are imperative. Marital indulgence must be strictly avoided and fresh air and out-door living must be provided as far as is consistent with maintaining rest and comfort. The sleeping room must be well ventilated, and cheerful surroundings and pleasant companionship will be of great advantage. Tea and coffee and highly seasoned foods must be prohibited.

As for medication, it must be remembered that the difficulty will yield slowly, and quick results must not be expected. Treatment must be persistent and every encouragement extended to the patient.

The bowels must be kept open without at any time using cathartics or other harsh measures. The following prescription will be found serviceable in this class of cases:

Take Fluid Extract Cascara one-half ounce.

“ “ *Leptandra one ounce.*

“ “ *Wahoo one ounce.*

Syrup of Butternut six ounces.

Mix. Dose, one teaspoonful at bedtime.

In addition, it may be necessary, in order to evacuate the bowels without distress, to administer an injection of warm water or weak infusion of boneset every morning. If injections are employed they should be retained as long as possible. If there is great pain it will be best to resort to injections to the bowels every three or four hours in order to obtain relief. Such injections should consist of lady slipper and blue cohosh in slippery elm infusion.

The following preparation should be persistently employed:

Take Fluid Extract Burdock Root, one-half ounce.

“ “ *Peach Leaves, one-half ounce.*

“ “ *Black Cohosh, one ounce.*

Syrup of Ginger six ounces.

Mix. Dose, a teaspoonful before meals.

It may require several months of such treatment to effect a cure; but, if persisted in, the desired results will be obtained if the difficulty was not allowed to obtain a great hold before commencing medication. After relief has been obtained and the strength is returning the patient should employ the Female Restorative mentioned in the section of Formulas.

Removal of the Ovaries. Spaying.

This is a surgical operation which is now too frequently performed without sufficient reason. It is surprising how many women are willing to undergo this operation to avoid bearing children. Many surgeons treat inflammation of the ovaries by their removal on account of the fee received and the notoriety gained by adding to his list of operations. Removal of the ovaries sometimes becomes necessary.

Tumors (Fibroid) of the Ovaries.

These are occasionally met with. In their early stages the symptoms resemble those of the early stages of ovarian dropsy, but they very seldom develop to great size. They can be successfully cured only by operation.

VAGINAL DISEASES.

Inflammation of the Vagina. Vaginitis.

The vaginal canal is extremely liable to become inflamed. Irritation is the most frequent cause, and

young married women are extremely liable to suffer from it on account of too frequent or violent marital indulgence. The use of pessaries, mechanical or harsh fluid preventives and masturbation may cause vaginitis.

Symptoms.—There will be a burning sensation in the vagina, often extending to the outer parts, a feeling of weight will be experienced in the perineum, and sometimes flitting and sharp pains will prove annoying. There will be a frequent desire to urinate, and the act itself may cause considerable smarting.

Treatment.—All acts calculated to aggravate the difficulty must be strictly forbidden. Rest must be enjoined and the patient should keep off the feet until relieved. If there is constipation empty the rectum by an injection of lobelia and elm. As a vaginal injection, use three or four times a day, Distilled Sweet Clover containing a little infusion of lady slipper, always warm. There is a liability to congestion following the inflammation, so that after the acute symptoms have subsided raspberry leaves, in infusion, may be added to the Distilled Sweet Clover, instead of the lady slipper. The mucus discharge during vaginitis is usually profuse, and if it should become offensive, add a little myrrh to the vaginal injection.

Imperforate Hymen.

In virgins, as a rule, though not invariable, a membrane partially closes the orifice of the vagina. This membrane is termed the hymen. In most cases it is thin and may be easily broken, while in other cases it is very firm and sometimes almost fibrous in its nature. In rare instances the hymen will completely close the orifice of the vagina and prevent the menstrual discharge from escaping. Such a condition would result in serious consequences if unattended to. The operation for cutting an imperforate hymen is very simple when performed by a surgeon and requires no after-treatment but rest. It should not be neg-

lected when the hymen interferes with menstruation or marital indulgence.

Prolapsus of the Vagina.

Not infrequently the walls of the vagina become folded upon themselves through excessive relaxation and may possibly protrude beyond the external parts. In nearly all cases the anterior or posterior wall will be singly affected.

The causes of this condition may be numerous and include abortion, rupture during delivery, excessive marital indulgence, masturbation, long continued or severe leucorrhœa, or anything that will relax the tissues of the vagina or diminish its support. Lymphatic or delicate persons, or those suffering from weakening diseases, are most liable.

Symptoms.—In many respects the sensations produced by falling of the vagina are similar to those of prolapsus of the womb, only, as a rule, much less pronounced. There will be a sense of weight and fullness in the vagina, and on inserting the finger a rounded and soft tumor will be distinctly recognized (the womb when fallen will be felt as a hard and oblong mass).

Treatment.—The patient must keep in the recumbent position as much as possible until relieved; though constant lying in bed will prove weakening. The astringent suppository mentioned in the article on falling of the womb should be used; but astringent injections to the vagina will prove serviceable. In mild cases witch hazel or raspberry infusion will prove all sufficient; but in severe and persistent cases a weak solution of tannic acid or of kino will be best. To avoid the inconvenience of injections a drachm of tannic acid may be thoroughly rubbed into an ounce of vaseline and used as a salve. If the general health is impaired the same treatment should be pursued as advised for falling of the womb. In rare instances prolapsus of the vagina is so persistent as to render surgical interference necessary.

Spasm of the Vagina. Vaginismus.

The muscular fibres of the vagina include many circular ones, like rings; and under certain conditions these muscles are liable to spasm, causing the vagina to close suddenly and to remain closed until relaxed. Such a condition is very annoying. It is most liable to occur in nervous persons during sexual excitement. It will render conception unlikely and sexual intercourse partial or impossible. Newly married women are subject to it, and it manifestly causes unhappiness and annoyance. Many cases are on record where spasm of the vagina occurred during intercourse, rendering withdrawal impossible for a considerable length of time, and causing pain and humiliation.

Treatment.—General attention should be given to the nervous system, and soothing nervines, as mentioned in the section on Remedies, should be employed. Lady slipper and camomile will make an excellent infusion. Locally, vaginal injections of lobelia infusion in Distilled Sweet Clover should be used freely. If intercourse is attempted it should be gentle and infrequent; and it would be best to freely anoint the parts far into the vagina with an ointment made by rubbing a little oil or seeds of lobelia into vaseline. Plenty of out-door exercise, a light and nourishing diet and the encouragement of thoughts upon other subjects will be beneficial.

BARRENNESS.

Sterility. Childlessness.

It is the destiny of woman to bear children, and she has been endowed by the Creator with organs designed for that special purpose. Her whole constitution and her frame have been formed with that design; and failure to fulfill her destiny, like failure to comply with any other natural law, is sure to be followed by evil consequences.

It may be the boast of some that their higher intellectual life and mental training overcome and compensate for marriage and the bearing of children. The nipping off of buds from a rose vine may indeed cause the vine itself to grow taller and more graceful as a vine; but its usefulness for which it is adorned and for which it was designed is lost. What a sad disappointment to the gardener is the rose vine that bears no flower. What a sad disappointment to Nature is the woman that bears no children!

Barrenness or sterility is the term applied to that condition of a woman which makes it impossible for conception to take place. It is a misfortune of the gravest character. To those who imagine child bearing to be the great drawback to marriage, barrenness may seem an ideal condition. But experience will soon teach them otherwise. The married woman who will not bear children has the satisfaction of knowing that she can, if she would, and that her physical condition is not imperfect. But the married woman who cannot bear children soon becomes painfully distressed over her incapacity, and it weighs upon her mind with great intensity. It is not long before she becomes possessed with an inordinate desire to bear children, a desire which is always uppermost in her thoughts and is accompanied by a keen realization of her inability. Her physical imperfection preys upon her mind, and day and night she worries about it and keeps herself upon such a mental strain that her nervous system becomes more or less unstrung, and consequently various physical ailments follow and she becomes miserable indeed, and perhaps is dosed and manipulated by physicians for first one ailment and then another with mortifying lack of success.

No woman and no man can be incapacitated for fulfilling their natural destiny to do their share toward continuing posterity without experiencing a sense of imperfection and humility which is fatal to mental happiness and physical welfare.

Causes.—Sterility or barrenness is not a disease of itself. It is rather a symptom of unnatural conditions being present in the organism. These conditions are various; and when barrenness is apparent, it

becomes a woman's duty to herself and to her husband, as well as to position in creation, to submit herself to a thorough and critical examination by a skillful physician of integrity, that she may ascertain the precise character of her unnatural condition, and be enabled to intelligently undertake to correct it.

ABSENCE OF ORGANS.—It is apparent that the absence of any of the essential organs of generation would cause barrenness. The womb itself may be wanting, or there may be no ovaries or fallopian tubes, or the vagina may be completely obliterated. Such cases are on record, although they are extremely rare, except the absence of ovaries, and naturally that is rare. Surgical removal of the ovaries has become of far too common occurrence. It is justifiable under some circumstances, but those circumstances are rare. The woman who has her ovaries removed to escape the bearing of children is committing a crime against herself and humanity at large. A life of mental misery and regret will be hers, and the surgeon who, without absolute necessity, performs such an operation is a criminal and should be dealt with accordingly. Of course no treatment or surgical operation can possibly overcome barrenness when occasioned by absence of the ovaries, tubes or womb. Such a condition could not exist without a suspicion of unnatural formation before marriage, which should lead to an examination, and if ascertained to be such, the marriage relation should never be entered into; for sexual incapacity of either the wife or the husband is sure to be fatal to marital happiness. If the vagina is absent it is often possible to at least partially remedy the difficulty by a surgical operation.

TUMORS.—Barrenness may be caused by the presence of tumors in the womb or protruding into the vagina. Such tumors may be of a fibrous character, or may be what are termed polypi. The symptoms and treatment of these tumors will be found in the article on Tumors of the Womb. It is evident that they should be removed by surgical operation as soon as possible after being recognized. It is not at all uncommon for

such tumors to be mistaken for pregnancy, and thus the symptoms of a cause of barrenness are mistaken for symptoms of an exactly opposite condition.

IMPERFORATE HYMEN.—Occasionally the hymen—the membrane which naturally exists in virgins at the mouth of the vagina—may be so dense as to remain unbroken after many attempts at intercourse. Married couples have even lived for years together and had frequent imperfect intercourse before the true condition of affairs became known. The method of overcoming such a cause of barrenness is an extremely simple operation, consisting of making a slight incision through the hymen with a sharp surgical knife. But simple as the operation is it should be performed only by skillful hands. It is a mistake to suppose that everyone can be his own surgeon. That is a domain that requires study, practice and talent to insure success.

VAGINISMUS.—Some women are extremely sensitive in the sexual organs, and attempts at intercourse may cause a spasm and complete closure of the vagina. Such a condition is a source of mortification, and if not overcome is sure to prove a cause of barrenness. Its signs and treatment are fully mentioned in the article on Vaginismus (which see).

DISPLACEMENTS.—The womb may be bent upon itself or otherwise displaced, making it impossible for the semen to enter, and thus causing barrenness. There are several forms of displacement, and all are usually remedied with ease if attended to early. They are mentioned in detail in the article on Displacements.

INFLAMMATION.—The ovaries or the womb or the membranes covering them may become inflamed and bring about a condition of barrenness. Inflammations of this kind and even dropsy of the ovaries or ovarian tumor do not absolutely prevent child bearing, but they usually do; and should at any rate prohibit it. No woman has a right to subject herself to the dangers of child bearing who is thus afflicted. See

the articles on Inflammation of the Womb, Congestion of the Womb, Inflammation of the Ovaries and Dropsy of the Ovaries.

IRREGULARITIES.—Flooding or profuse menstruation, painful menstruation or dysmenorrhœa, and deficient menstruation or amenorrhœa may all cause barrenness. These subjects are fully treated elsewhere.

EXHAUSTION.—Women suffering from exhausting diseases of any nature may not be able to bear children, and they should not undertake to do so if they could. Such an act is criminal to both mother and child. But there is a form of sexual exhaustion caused by excessive intercourse which of itself may bring about barrenness. Thus it often happens that a desire on the part of both husband and wife to have children may lead to such excesses as to defeat the desire it is aimed to attain.

THE HUSBAND.—It is not always the woman who is at fault when she fails to bear children. The husband may be impotent and unable to do his share in causing conception. A childless woman should be thoroughly examined by a skillful physician, and if a condition of perfect health is revealed, the husband should submit himself to rigid examination, and if he, too, is perfectly healthy, inadaptability must be suspected.

Let no woman despair of becoming a mother. Since I began writing on these subjects I have been written to by many ladies who considered themselves hopelessly barren. I am glad to say that acting on my suggestions the great majority have been able to bear children—have become happy mothers of happy children.

NYMPHOMANIA.

Inordinate Sexual Desire.

There are certain conditions of the external genitals which cause a degree of sensitiveness that becomes manifested by the arousing of inordinate sexual desires. These conditions may be brought about by excessive bicycle riding or masturbation or by lack of

cleanliness during menstruation. Excessive marital indulgence may sometimes occasion it in married women. It is an unfortunate condition, and is frequently the cause of great mortification if not of absolute disgrace. The difficulty often amounts to insanity and if not soon overcome will result in serious consequences.

Symptoms.—The description given of the disorder and its causes sufficiently describes its ordinary symptoms. In severe and protracted cases the countenance will betray the sexual desires by a look which is readily recognized, and when left alone with a male companion a confirmed nymphomaniac is extremely liable to be indecent in conversation and action, much to her future mortification. Sometimes nymphomania is manifested only at the menstrual periods, while entirely absent between periods.

Treatment.—Avoid tea, coffee and stimulants, eat bland foods, drink water abundantly, and take exercise to the fullest extent consistent with health. Food must be very plain and should not contain eggs, oysters, meats or highly seasoned articles. The sleeping room must be cool and the bed hard and covers light. Male companionship must be avoided and reading of newspapers and novels must be prohibited lest matters of excitement should be perused. Absolute cleanliness must be observed, and a tepid bath should be daily indulged in. Except at the menstrual periods, applications of cold water should be made to the external genitals. The chewing frequently of marsh mallow root will be soothing to the sensitive mucous membranes, and ten-drop doses of fluid extract of scullcap, taken in water four times a day, will strengthen the nerves and allay desire. If excitement becomes excessive a capsule containing two grains of lobelia seed should be taken every four hours. In all cases the thoughts must be directed to other things.

DISPLACEMENTS.

Displacement of the Bladder.

This organ may fall downward and produce most unpleasant symptoms. There will be a sense of fullness

in the vagina, and examination will reveal a tumor of the anterior wall. When the bladder is full the tumor will be large and firm, and when empty it will be shrivelled in appearance. Urination will be painful and difficult and dragging sensations will be experienced, and inflammation is apt to follow.

Treatment.—Soothe the urinary passages by drinks of marsh mallow root or other demulcent. When the bladder is empty it should be gently pressed into position and kept there by a cylindrical roll of muslin, covered with witch hazel ointment, placed in the vagina. Astringent vaginal injections should be used frequently and the general health maintained. Rest should be enjoined; especially should the patient keep off her feet.

Displacement of the Rectum.

Occasionally the rectum may bulge forward into the vagina. This is usually brought about by allowing the rectum to remain over-loaded for too long a time, or by straining too hard at stool, especially when the tissues are relaxed or the system depressed. Over exertion or too prolonged standing may likewise produce the difficulty.

The symptoms of displacement of the rectum are readily recognized and consist of a sense of fullness in the vagina and a distinct tumor on the posterior wall, which diminishes on lying upon the back. Replace the rectum by lying on the back and inserting a cylindrical roll of muslin in the vagina, after first thoroughly evacuating the rectum. Use frequently as a vaginal injection an infusion of some astringent and cover the cylinder with witch hazel ointment and keep off of the feet.

DISEASES OF EXTERNAL GENITALS.

Abscess of the External Genitals.

When inflammation of the external genitals is neglected abscess may possibly follow. There will be

throbbing pains and great tenderness, extending to the groins and down the thighs. There may also be distinct kernels in the groins, which will subside after the abscess has discharged. The size and position of the abscesses vary.

Treatment.—Poultices must be applied every six hours and worn constantly. These poultices should be of ground flaxseed sprinkled over with goldenseal and lobelia. After each poultice is removed the parts should be thoroughly cleansed with warm water containing Distilled Sweet Clover and a little tincture of myrrh, and a vaginal injection of the same should be used. The strength must be maintained by a light but nourishing diet and the use of the Scrofula Compound (see formulas).

Dropsy of the Labia.

The external genitals may be occasionally the seat of dropsy. This most frequently occurs during pregnancy, and may at such times become so annoying as to necessitate their being punctured to allow the accumulated fluid to escape. Sometimes from irritations or other causes of inflammation, the labia may become enormously swollen and doughy. For such a condition the skin and kidneys should be urged to increased activity by frequent drinks of peach leaves containing a little ginger and pleurisy root. The parts themselves may be bathed with Distilled Sweet Clover. When there is no direct cause known for dropsy of the labia a careful examination should be made for womb troubles which may exist.

Injuries to External Organs.

Sometimes through accident or by violent intercourse or as a consequence of improper delivery during labor, the external genitals become injured. They may be swollen and present a bruised appearance, and be of varying degrees of redness or even purple. Tenderness and pain will be experienced and suppuration is apt to follow, preceded by chilliness

and fever. Bathe the parts with distilled sweet clover and wear a napkin saturated with the same. If suppurating discharge is present add a little tincture of myrrh to the distilled sweet clover. Quietude must be strictly observed.

Pruritis. Itching of the External Genitals.

This condition may be the cause of great mortification, as the desire to scratch the parts becomes uncontrollable, and may be experienced day and night under all circumstances. What is most aggravating about the trouble is the fact that although scratching is persisted in it gives no relief, but increases the trouble. It is not long before the parts become dry and hot and sensitive, and often small pimples appear.

The causes of itching may be mentioned as uncleanness, masturbation, excessive or violent intercourse, pin-worms, the use of pessaries or other instruments or irritating bandages, leucorrhœal discharges, inflammation of the bladder, or derangements caused by stomach or liver troubles.

Treatment.—It is of the utmost importance to ascertain the cause of the difficulty and remove it. This having been done local treatment may be carried out. Wash the parts well with borax water several times a day and then apply a wash of equal parts of distilled witch hazel and strong infusion of lobelia and raspberry leaves. Always keep the bowels open by mild laxatives. Bathe the body often, and if there is nervousness use assafoetida pills. Cold water applications to the parts are serviceable. As a rule the use of a mild tonic, such as the female restorative (see formulas) should follow.

Inflammation of External Genitals.

A most aggravating condition of the external female genitals may be caused by several things, such as lack of cleanliness during leucorrhœa or menstruation, excessive or violent intercourse, masturbation, etc. Little children are especially prone to this con-

dition, due to their manipulating the parts or even inserting sand, gravel, etc. Lately a common source of inflammation of the external genitals has been found in improper bicycle riding, especially by fleshy women or girls. In all cases the difficulty is capable of causing intense and very annoying suffering.

Symptoms.—The parts become sensitive and red, and hot and often swollen and glassy looking, and sometimes very dark red. In a short time a thin and irritating discharge is noticed, which may become acrid and irritate the parts and the adjoining skin and at the same time cause intense itching. This discharge may be so irritating as to excoriate the surfaces and cause the lips to adhere. Children of scrofulous tendencies are extremely liable to suffer from this form of inflammation, and with them the discharge may assume an offensive odor and be of a creamy consistence. Walking aggravates the difficulty by rubbing the surfaces together.

Treatment.—Cleanliness is indispensable. Wash the parts often and thoroughly with warm water containing distilled sweet clover. Bathe the parts with a wash of equal portions of distilled witch hazel and strong lobelia infusion and wear a napkin saturated with the same. Keep the bowels freely open by the use of mild laxatives.

If the urine is scalding, as is most usual, drink freely of marsh mallow root or slippery elm infusion. If there is feverishness use an infusion of pleurisy root and ginger. If there is any tendency of the parts to adhere, a piece of oiled silk should be worn between them. The difficulty will be thus overcome in a few days. But feeble children may be somewhat exhausted and need such a tonic as the Female Restorative (see formulas).

REMEDIES AND FORMULAS.

DISEASE AND MEDICATION.

Classifications.

Disease is a condition of the organism whereby one or more of its functions are interfered with, and consequently not performed easily. Obstructions within the system are the usual causes of diseases, and these may be of a poisonous nature as well, and directly cause destruction of tissues. (See Causes of Disease.)

Departure from health (disease) may be dependent upon the existence of three general classes of abnormal conditions: (1) The tissues may be too relaxed; (2) the tissues may be too tense; (3) the minute structures (see article on Minute Structures) may be in too great activity, termed stimulation. Whatever the disease, there will be manifestations of one or more of these conditions at the start and during the course of the difficulty, though destructions of tissues and other derangements may follow.

Relaxation, tension or stimulation may occur throughout the body, or may be confined to certain structures or certain organs. Thus there may be general relaxation, as in congestive chills, or general tension, as in convulsions, or general stimulation, as in fever.

All true remedies may be divided into three general classes, (1) stimulants, (2) relaxants, (3) astringents; and the influences they exert over the tissues of the body are well described by these terms. As a rule, general relaxation of the tissues require the use of stimulants and astringents, and general increased ac-

tivity and general conditions of tension require the use of relaxants.

But it is seldom that all the structures of the body are disordered in the same manner. As a rule two or more classes of tissues become involved. Thus the nerves may be over-stimulated, while many of the organs may be otherwise. The liver may be relaxed and at the same time the stomach may be over sensitive and the nerves tense; and various other complications of disordered conditions are apt to be the rule in nearly every form of disease.

Remedies are also classified according to the tissues they chiefly act upon in addition to their general classification. Besides many agents exert stimulating, relaxing and astringent properties in various degrees, allowing them to be spoken of as moderately stimulating, moderately relaxing, etc.

AGRIMONY.—Agrimonia Eupatoria.

This plant grows wild in many localities. It is a hairy herb about three feet high, with yellow flowers arranged on a spike at the top. It is easily dried in the open air and loses little of its virtues by the process.

Properties.—Agrimony is a mild astringent tonic, adapted to relaxed though sensitive conditions; but out of place where there is dryness of the secretions. It is used for bed-wetting and weakness of the bladder, also for loose coughs, and sore mouth with membranes of a purplish hue. The whole herb or the dried root may be used in the form of infusion; an ounce to a pint of boiling water; given in doses of three or four tablespoonfuls every four hours or oftener.

ALDER.—Alnus Serrulata.

This shrub, also known as swamp alder or tag alder, is abundant in marshy places. The bark is the part of the plant employed in medicine.

Properties.—The alder is a mild, astringent alterative, chiefly used in combination with sarsaparilla or other alteratives in the treatment of various blood diseases—such as scrofula and skin eruptions. Sometimes, on account of its astringent properties, it is used in chronic diarrhœa. It is best administered as a syrup. As a remedy for ulcerations of the mouth its infusion, used as a wash, has been found valuable. Sprinkled (powdered) over a poultice and applied to degenerating sores it will be found serviceable.

ALLSPICE.—Pimento.

This agent is too well known to need special description. It is very pleasant to the taste, and for that reason is largely employed to disguise unpleasant agents, for there are but few persons who cannot endure it.

Properties.—Allspice is a mild stimulant and astringent, and for that reason should not be used as a spice by persons having sensitive stomachs. A strong tea of allspice, containing a little cloves, will be found very useful in ordinary diarrhœa, and at the same time relief may be hastened by applying over the abdomen cloths wrung out of a strong infusion of allspice containing a little ginger. Such methods are very acceptable to children suffering from ordinary attacks of summer diarrhœa.

ALOES.—Socotrine.

There are very many varieties of the aloes family, and the drug on the market under that name is the dried juice of the leaves of species found in Africa and Southern Europe. It is a well-known agent and has been employed for many centuries.

Properties.—This is a stimulating cathartic of a very bitter class, and on account of its unpleasant taste and severe action it is usually combined with other agents. Persons suffering from piles or hemorrhoids should not use it as it excites and irritates the lower

bowel. Ten grains of the powder is an ordinary dose, although half that amount made into a pill with a little leptandrin would be preferable. Powdered aloes made into a strong decoction is often used by mothers to rub over the nipples when weaning children—the bitterness of the aloes causing the child to turn against the breast.

ALUM.—Ammonia-Potassium Aluminate.

This is a well known agent, very much resembling washing soda in appearance, though consisting of crystals of a different shape. Powdered alum is the ordinary alum heated, dried and then pulverized, called also burnt alum.

Properties.—Alum is a pure and powerful astringent of great use in hemorrhages from small bleeding vessels, as of the nose and mouth and surface. An alum crystal applied to granulations of the eyelids will produce good results, or a weak solution of alum is excellent for ordinary sore eyes. Alum gargle is good in relaxed sore throat, and burnt alum touched to a fallen palate will contract it. Teaspoonful doses of alum syrup every fifteen minutes will excite vomiting in croup. Its solution is frequently rubbed over the breasts to dry up the milk, and also to harden the nipples. And, unwisely, the menses are often checked by its use.

AMMONIA.—Spirits of Hartshorn.

The characteristic and pungent odor of ammonia is well known. In its stronger form it is a dangerous article to have about the house, as it acts like a strong alkali if swallowed (see Poisons), and if inhaled its fumes will irritate the lungs and perhaps prove fatal.

Properties.—As an addition to stimulating liniments it often proves serviceable in the relief of pain; and as “smelling salts,” applied to the nostrils in fainting spells it is very useful; but it should not be placed too close to the nostrils. What is known as Volatile Lin-

iment consists of a pint of strong ammonia and two pints of cotton-seed oil, shaken thoroughly together. Origanum or other essential oils may be added.

ANISE.—*Pimpinella Anisum*.

The seeds of anise, containing considerable quantities of a very pleasant essential oil, have been used in medicine from time immemorial. They are brought to this country from the old world. The extracted oil is also upon the market.

Properties.—Anise is a stimulating and diffusive aromatic, of a very pleasant taste and especially acceptable to children. It is known as a carminative and is much employed for flatulence and colic. One or two drops of the oil of anise upon sugar is a sufficient dose for children. The essence is more convenient for use, and infusions of the seeds may be employed. Paregoric contains anise, as also do many unpleasant compounds used in medicine. The use of anise seeds upon cakes for children is beneficial at holiday times, aiding digestion and overcoming disturbances caused by over-eating.

ASSAFOETIDA.—*Narthex Assafoetida*.

This is a gum obtained from trees of oriental growth. Its odor is characteristic and abominably disagreeable. It is seldom used crude, but is nearly always administered in pill form.

Properties.—Assafoetida is a powerful nervine of a somewhat stimulating character. It is of great value in hysterics and nervous irritability, often inducing natural sleep. For smothering sensations due to nervous disorders it is valuable. By many it is used for cramps and colic. It is also very serviceable as a preventive of la grippe and other forms of neuralgia. Milk of assafoetida is formed by rubbing thoroughly together in a mortar one ounce of gum assafoetida and eight ounces of water. This is usually employed as an enema to the bowels in colic. In pill form, of two

grains each, assafoetida may be given every four hours for neuralgia or hysterics, or two or three pills at bedtime for sleeplessness.

BALM OF GILEAD.—*Populus Balsamifera*.

The fragrant brown buds of the balsam poplar tree are by many highly prized as a remedial agent, their medicinal properties being due to their fragrant resinous constituents.

Properties.—Balm of Gilead is classed as a stimulating expectorant, and is very useful in old coughs where the lungs are feeble and unable to throw off accumulations in the air passages. Half an ounce of them in the ordinary alcoholic tincture is sufficient to add to a pint of cough syrup. An infusion cannot be made, as the resinous substance is not acted upon by water alone. The use of Balm of Gilead would be inappropriate in irritable conditions of the lungs.

BALMONY.—*Chelone Glabra*.

This herb is also known as snakehead or turtle bloom. It is a common plant and blooms in the late summer or early fall, having large, light pink flowers. The leaves are used medicinally.

Properties.—Balmony is a stimulating, bitter tonic, exerting a powerful influence upon the stomach, and a less pronounced impression upon the liver and bowels. It is a valuable agent to use in weak conditions of the stomach, where the liver is sluggish. In chronic malarial difficulties it is serviceable. By some it is highly prized as a worm medicine. Half a cupful of the infusion taken before meals will act as a satisfactory appetizer in sluggish conditions of the stomach.

BALSAM FIR.—*Abies Balsamea*.

This is a resinous fluid obtained from a secretion under the bark of the evergreen tree known as Canada Balsam.

Properties.—Balsam Fir is a stimulating expectorant, very much resembling Balm of Gilead in its action and uses. For old coughs the following will be found excellent: Balsam Fir, one ounce; glycerine and honey, each four ounces; flavor to suit the taste; thoroughly mix; dose, one teaspoonful four times a day. Aged persons suffering from congestion of the kidneys will find Balsam Fir an excellent kidney tonic.

BALSAM TOLU.

This is a resinous substance often used as a stimulating expectorant in old coughs, but should never be employed in irritable conditions. Its usual form is as syrup of tolu, which may be added to cough syrups in the proportion of not more than one ounce to eight.

BARBERRY.—*Berberis Vulgaris*.

This is a house-yard shrub bearing bright red berries which are often used for preserving purposes. The bark is the portion that is used medicinally.

Properties.—Barberry bark is an intensely bitter stimulant, used chiefly for torpid condition of the liver and flaccid conditions of the stomach. It is a pronounced tonic and is adapted only to chronic cases. In jaundice, accompanied by loss of strength and feeble appetite, it is valuable. It is much used in malarial diseases combined with other agents, such as goldenseal and wild cherry bark. An infusion of half an ounce to the pint of boiling water is sufficiently strong. Half a teacupful before meals will prove of most benefit. It is frequently employed along with burdock or yellow dock for diseases of the blood where the liver is also involved.

BETH ROOT.—*Trillium*.

This little plant is familiarly known as ground lily or birth root. It grows in the woods, and consists of

a single flower at the axis of three large leaves, supported by a single stem about ten inches in length. The root contains the medicinal properties.

Properties.—Beth Root is a soothing astringent, leaving a tonic impression. It is chiefly used in the form of infusion, one ounce to a pint of boiling water. It will aid in arresting all forms of hemorrhages, as bleeding from the nose, mouth, stomach, bowels, bladder and womb. The powdered root may be applied; or snuffed up in bleeding of the nose or catarrh. In dysentery it has been found very useful; and with some it is considered almost a specific for female weakness. It derives its name of birth root from its being frequently used prior to childbirth to lessen the pain and difficulty at the time of delivery.

BITTER ROOT.—*Apocynum*.



BITTER ROOT.

This plant is also known as black Indian hemp or dogbane. It is a very common plant and grows abundantly along the roadside. Its creeping root is very long and is the part used as a medicine.

Properties.—Bitter Root is a very bitter stimulating tonic, acting chiefly upon the liver, emptying the gall-ducts, securing a free discharge of bile and thereby causing activity of the bowels. For jaundice, gall-stones and chronic sluggish conditions of the liver, bitter root is unexcelled; but it should not be employed in irritable conditions of the stomach. It will act as a physic, producing a movement of the bowels in eight

or ten hours, by using half a teaspoonful of the powder at bedtime. *Apocynin* is a concentrated preparation of bitter root and is the best form to use in chronic cases. Dose, one to two grains twice a day. The fluid extract can be obtained. Dose, ten drops every six hours.

BITTER-SWEET.—*Celastrus Scandens*.

This is often called staff vine and also bitter-sweet. It is a climbing shrub, bearing orange-colored, three-cornered berries. The root is long and also orange-colored; the bark of the root is the medicinal portion of the plant.

Properties. — Bitter-sweet is a relaxant, exerting its influence chiefly upon the glandular system; proving especially soothing in irritable conditions. It is usually given in syrup form combined with pronounced alteratives, such as yellow dock or stillingia, and is very beneficial in the treatment of eczema and scrofula. Bitter-sweet ointment is very soothing for irritable skin troubles, piles, burns, scalds, etc. It is prepared by heating for eight hours one pound of bark in one pound of lard.



BITTER-SWEET.

BLACKBERRY.—*Rubus*.

The ordinary blackberry or dewberry is too well known to need description. As a remedial agent blackberries are classed as astringents and are far

more serviceable medicinally than many would suppose. A strong decoction of the berries with witch hazel makes a most excellent wash for sore mouth, and with allspice added will be found useful in diarrhœa and dysentery.

BLACKBERRY CORDIAL is a well-known household remedy for summer diarrhœa, and it may be prepared as follows: Heat the berries slowly until they swell and burst, mash them and place in a close bag and squeeze thoroughly. In every quart of juice place a small cloth bag containing the following spices, ground: half an ounce each of cinnamon, allspice and ginger, and a very small quantity of cloves and mace; heat slowly for two hours in a covered porcelain vessel and add two and a half pounds of granulated sugar, and when dissolved put into small bottles.

BLACK COHOSH.—*Cimicifuga Racemosa*.



BLACK COHOSH.

The root of this herb is extensively used in the practice of medicine, and has been of known value for many years to the American Indian women. It is also called squaw root and rattlesnake root.

Properties.—Black Cohosh is a relaxing nervine and expectorant. It acts markedly on the spinal nerves, and for that reason it has gained a reputation in St. Vitus' dance and spinal meningitis and snake bite poisoning. So pronounced is its action that excessive doses produce a dizzy feeling in the head, though it is not in any way poisonous. Among Indian women it has a fabulous reputation for relieving pain during the menstrual period and during childbirth, and in general medical practice this reputation has been proven to be well founded. For tight coughs it is peculiarly serviceable, acting as

a soothing expectorant, although but small doses should be given, and then combined with other agents. An infusion may be made by steeping an ounce of the ground or powdered root in a pint of hot water; dose, a tablespoonful or more every three hours. The powder may be given in five grain doses three times a day. The tincture is often used as a nervine liniment, either by itself or combined, and is especially valuable in sciatica and rheumatism. Persons who have taken large doses of black cohosh just before retiring sometimes experience the peculiar sensations of dreaming over a long space of time in a few minutes, a fact which has been frequently reported,

BLACK ROOT.—*Leptandra Virginica*.

This valuable remedy was introduced as a medicinal agent by Dr. Culver, after whom it has been called Culver's physic. Another common name for the plant is tall speedwell. It is an annual, and sometimes attains six or more feet in height, bearing at the top spikes of small white flowers. The leaves are arranged in sets about the stem, several inches apart. The black root is the part used for medicine.

Properties.—Black root is a relaxant, exerting its chief action on the liver and is employed as a physic on account of its producing a free flow of bile. The concentration prepared from it, called leptandrin, is the form usually employed. Two grains of leptandrin is a large dose, and should usually be combined with a more stimulating agent, as apocynin. As a rule ten hours are required for it to act fully. Leptandrin enters into many "liver pills."

BLACK SALVE.—All-Healing Ointment.

This is a wonderful preparation, and when it once gains a place in a household it is likely to be considered indispensable. It is a stimulating application for old sores, sluggish ulcers, inverted toe nail, crushed

parts, etc., and when freely applied will serve to "draw" abscesses, felons and similar affections. To prepare black salve, carefully melt three ounces each of yellow beeswax, Venice turpentine and rosin in three pints of olive oil. Keep upon a slow fire and stir into it very slowly two pounds and a quarter of powdered red lead, using a wooden paddle to stir it with. The lead and the oil will chemically combine and become dark brown and almost black. It is then finished, and while hot should be poured into suitable boxes. To apply the salve, spread it thinly over a piece of linen cloth and apply face downward to the sore. Do not use it upon irritated surfaces.

BLOOD ROOT.—*Sanguinaria*.



BLOOD ROOT.

This is the common plant often known as red puccoon. It bears a little white blossom, and the stem and root exude an orange-colored juice when broken.

Properties.—Blood Root is a sharp stimulant and decidedly harsh in action. It is most highly valued as an expectorant in old chronic coughs, that are not irritable. It should be combined with lobelia and black cohosh in such cases. Some value its action upon the stomach and liver, in sluggish conditions. Nasal polyus is often treated by using a snuff of powdered blood root. One drachm of blood root in two ounces of bayberry and one-half ounce of borax will make a sharp snuff. One drachm of the

tincture in eight ounces of cough syrup will be sufficient.

BLUE COHOSH.—*Caulophyllum*.

The Indians used this agent for the cure of cramps and colic, whence it derived the common name of papoose root. It is a very valuable nervine of a stimulating character, and is employed chiefly in the menstrual difficulties of women—promoting the flow and affording relief. It is also a valuable agent to use in promoting labor pains. A strong infusion may be made by steeping an ounce of the root in a pint of boiling water; dose, two tablespoonfuls every three hours. For nervous and sluggish coughs it will act as an expectorant. For spasms it may be given freely.

BLUE FLAG.—*Iris Versicolor*.

This agent is usually used in combination with yellow dock and sarsaparilla on account of its power of increasing glandular action. It is also given in twenty-grain doses as an active cathartic.

BONESET.—*Eupatorium Perfoliatum*.

This has long been a household remedy, sometimes known under the name of thoroughwort. As a tonic it is used either in syrup form or as a cold infusion, and is useful in obstructions of the liver and in promoting the secretion of bile in cases of jaundice and malarial disorders characterized by constipation.

In warm infusion boneset is a pronounced relaxant and will soften the



BONESET.

skin by inducing perspiration; and if given too freely will excite vomiting. An infusion is made by steeping an ounce of the herb in a pint of boiling water. It is extremely bitter to the taste, and to children it is often highly objectionable. A thick syrup of boneset containing ginger and anise is used by some for coughs of children with good results.

BORAX.

This household article occupies an important place in medicine. It is a good antiseptic, and combined with witch hazel extract and goldenseal makes an unexcelled wash for thrush and ulcerated sore throat. With sulphur in powder it will loosen the membrane of diphtheria. As an eye wash ten grains to an ounce of water is good for inflamed conditions, as borax is soothing. Babies should be cleansed with water containing a little borax instead of soap; it will avert skin troubles. Likewise persons suffering from eczema should avoid soap and use borax in its place. For irritated sore throat borax solution will be found very serviceable.

BORACIC ACID.

This is very similar to borax in its medicinal properties, but it is much stronger as well as far more expensive. But it is preferable to borax in degenerate cases and as an antiseptic. Its solutions are slightly acid in character.

BUCHU.—Barosma Crenata.

The leaves of this African tea have long enjoyed a reputation for diseases of a congestive character of the mucous membrane of the urinary tract, including congestion of the bladder. An ounce to a pint of boiling water makes a strong infusion; dose, two tablespoonfuls. Dose of the fluid extract, ten drops every six hours.

BUGLE WEED.—*Lycopus Virginicus*.

This agent is also known as water horehound. It is a soothing astringent, also acting as a nervine, and is valuable in loose coughs and hemorrhages from the lungs and bladder and for incontinence of urine. An ounce to a pint of water is the ordinary infusion; dose two or three tablespoonfuls every two hours. The powder blown into or applied upon the surfaces of fistulas aids in the healing processes otherwise established.

BUTTERNUT.—*Juglans Cinerea*.

The inner bark of the white walnut tree has an important place in the materia medica. Its principal use is as a physic, and in that respect it is exceedingly valuable on account of its mild action and the tonic impression left upon the structures of the bowels. Its chief influence is exerted upon the lower bowels, and for that reason it cannot be excelled for prolapsus and constipation due to a sluggish condition of the large bowels. It is best administered in the form of a syrup made by slowly boiling a pound of the bark in water and evaporating to one pint and adding two pounds of sugar; dose, a tablespoonful. Senna is frequently combined with butternut to obtain a quicker cathartic action. Butternut syrup is a valuable physic for use in protracted febrile diseases.

CAMOMILE.—*Anthemis Nobilis*.

Garden camomile has maintained a valuable reputation for many hundreds of years, and its usefulness is fully recognized. In character it is a soothing nervine, and a mild stomach tonic to be used where there is weakness and poor appetite. The flowers are best used in infusion.

Properties.—When given warm, camomile will favor perspiration and soften the skin, and in women will promote the menstrual flow. The cold infusion acts as a tonic, and is more suitable for stomach difficul-

ties, and as a drink during convalescence from febrile diseases. The vapor from camomile boiled in water may be inhaled to advantage in quinsy. The German camomile is somewhat stronger in action than the American.

CALAMUS.—Sweet Flag.



CALAMUS.

This plant is found on the edges of ponds in shallow water where the soil is constantly moist and rich. It is a well known household remedy, and its prompt use will often prevent serious troubles.

Properties. — Calamus is a mild and agreeable stimulant, exerting its chief influence upon the stomach and bowels. For flatulent colic in children it is especially valuable. It is also frequently used for heart-burn, due to distention of the stomach by gas. An infusion of the root may be used, or a portion of the root may be chewed and swallowed. Calamus lozenges are

kept by most druggists and are pleasant and convenient.

CAMPHOR.—*Laurus Camphora*.

This is a gum obtained from far eastern countries, and is familiar to everyone. The spirits of camphor may be made by dissolving two ounces of the gum in

a pint of alcohol. Its chief use is for outward application in the form of liniments, either by itself or combined with essential oils. It will greatly aid in giving quick relief in cases of sprains, bruises, etc.; as an application for muscular rheumatism it is valuable, but if persisted in for rheumatism of the joints it is apt to favor stiffening on account of its drying influence. Some use it outwardly over the breasts to dry up the flow of milk, but in such cases it is apt to favor permanent shrinkage of the breasts. Its internal use is chiefly confined to its employment to check looseness of the bowels.

CASCARA SAGRADA.—*Rhamnus Purshiana*.

This is a species of the California buckthorn, also known as sacred bark. It is of recent introduction to the medical profession, but it is a valuable article. Its taste is intensely and persistently bitter, though to some it is not disagreeable.

Properties.—As an agent to be used in chronic constipation it can be highly recommended, though as an ordinary physic it is uncalled for, as there are more pleasant and prompter cathartics. An ounce of the fluid extract in eight ounces of syrup of yellow dock makes an excellent preparation for engorged liver and blood disorders with constipation. By some it is highly prized as a “spring medicine.” The dose of the fluid extract as a physic is a teaspoonful at bedtime. A very pleasant preparation is for sale known as Aromatic Cascara. Its action is similar to the uncombined article, and the dose is the same.

CASTOR OIL.—*Oleum Ricinus*.

The castor oil of commerce is obtained from the bean, the plant being quite showy as a lawn ornamentation, growing, with its spreading leaves, even ten feet or more in height during a single season.

Properties.—Castor oil is an extremely valuable physic, a large dose securing a movement of the bow-

els in about four hours. The dose for an adult is one large tablespoonful, and for a child a large teaspoonful. Its disagreeable odor and consistence may be disguised by mixing it thoroughly with hot milk containing peppermint or cinnamon. By injection it may be given to clean out the lower bowel; for such purposes, four tablespoonfuls should be thoroughly mixed with a mucilage of slippery elm bark. A dose may readily be taken in a glass of strong lemon soda water.

CATNIP.—*Nepeta Cataria*.

This plant is so abundant and its use so common as a nursery remedy, that its value is often overlooked. It is a most soothing article in all cases of nervous irritability, and may often prove an unusually acceptable drink to feverish persons. It is best used in the form of infusion, an ounce to the pint of boiling water in a closed vessel. As an injection it is invaluable for colic in children, frequently causing such sudden relief from pain as to produce speedy sleep. In hysteria and other forms of nervous diseases of an acute character, as to manifestations, it will be found very serviceable. It is of but little use in the form of syrup or fluid extract, its action being transient.

CAYENNE PEPPER.—*Capsicum*.

Red pepper is the most pronounced stimulant of the *materia medica*, and it cannot be equalled for use when powerful and prolonged stimulation is needed, as in congestive chills, heart failure, etc. The whole circulation is affected by the agent, and it can be used externally as well as internally. Liniments for neuralgia, sciatica, paralysis, etc., should contain capsicum. And in chronic sluggish conditions a small amount may be added to other kinds of medication. In congested, ulcerated or infectious sore throat it is most excellent, especially combined with myrrh. It is antiseptic in character and a most suitable gargle in

diphtheria. Given internally it will check uterine hemorrhages. One grain is considered a full dose, except for rare cases, as in congestive chills. Ten grains to a pint of boiling water will make an ordinary infusion. Capsicum plasters are valuable for pneumonia and other conditions, but should not be allowed to remain over an hour on the parts.

CHARCOAL.—Carbon.

It is a well known fact that powdered charcoal acts as a disinfectant on account of its power of absorbing gases. Meats placed in charcoal will be preserved for a great length of time.

Properties.—Charcoal is frequently employed as an arrester of putrefaction in the stomach and bowels. The powdered willow charcoal is the kind most used. A teaspoonful taken after meals will often afford relief to those suffering from heart-burn and other forms of dyspepsia. Old charcoal is made more effectual by heating it before using it. Sprinkled over or mixed with poultices applied to degenerate ulcers or sores it will be found serviceable. It is a most excellent application for gangrene. Charcoal tablets may be obtained of druggists; and they are pleasant to use in dyspepsia.

CHERRY BARK.—*Prunus Virginicus*.

Wild Cherry bark has gained a wide reputation for certain forms of lung troubles; but it is useful in many other classes of diseases. It is a mild tonic, of the soothing astringent class. It should not be used for dry coughs, but is valuable when expectoration is too free, especially when combined with other articles. For diarrhœa of children it is excellent in the form of syrup, and may be pleasantly combined with neutralizing cordial. Indigestion caused by a lack of tone in the stomach will be benefited by its use. The fluid extract may be readily obtained. Dose, fifteen drops in water. The syrup of wild cherry bark is

very pleasant and may be used as a basis for cough medicines for old or protracted and enfeebled cases, spikenard and lippia Mexicana being valuable agents to combine with it in such cases.

CHESTNUT LEAVES.—*Castania*.

The leaves of the ordinary chestnut tree are becoming recognized as possessed of pronounced medicinal value. They are soothing to mucous surfaces, and also to the nervous system, acting as an anti-spasmodic. For whooping cough they are by many regarded as a specific. For this malady they may be combined with lobelia and blue cohosh. They are also useful in coughs of a distressing character. For protracted cases of hiccough they may afford relief after all other agents have failed. The best form of using them is in infusion—an ounce to the pint of boiling water. The infusion may be strained and made into a syrup. The fluid extract is convenient; dose, ten drops. Dose of the infusion, two tablespoonfuls for an adult, and half the quantity for children.

CLEAVERS.—*Galium*.

This is the common trailing plant generally known as goose grass or bed-straw. It grows wild in fields near the woods and is very abundant. Medicinally, the green herb may be used as well as the dried; and if combined with marsh mallows will prove a most soothing agent in the treatment of inflammatory diseases of the kidneys, bladder and urinary passages. Its fluid extract added to neutralizing cordial adds to the adaptability of that preparation to diarrhœa with acrid discharges. *Galium* is best used in the form of a cold infusion and may be taken frequently. During the latter stages of scarlet fever, when there is a tendency to irritable conditions of the kidneys, cleavers will prove a very acceptable and beneficial drink. For children, and adults as well, who suffer from scalding urine, it is invaluable.

CLOVES.—*Caryophyllus Aromaticus*.

These need no description, and as they are usually kept in the house as a kitchen spice, it is well to remember that their stimulating and astringent properties may at times be used to advantage medicinally. Internally, an infusion of cloves will be found useful in summer diarrhœa, especially when combined with a larger proportion of allspice. Cloths wrung out of a hot infusion of cloves and applied over the abdomen will relieve the pain of colic. The oil of cloves on cotton, placed in the hollow of an aching tooth, will usually afford relief. Cloves cannot be used in large quantities or for any length of time, as they are too strong for the coats of the stomach.

COLD CREAM.

Many different kinds of ointments are sold under the name of cold cream, some of them being most excellent, while others are worse than worthless. The following preparation is a wonderfully soothing application for scalds and burns and chapped hands and face: Melt in a water bath or pudding kettle six ounces each of spermaceti and white beeswax, and one ounce of lanoline and sixteen ounces of almond oil. Heat two drachms of borax in an ounce of glycerine and add to the melted wax and oil, and then stir into all briskly ten ounces of hot rose water. Continue stirring until the mass cools, which may be hastened by placing the vessel in cold water while stirring. When the mass is of the consistency of ordinary cream, pour into boxes. Attar of rose may be added to make an elegant preparation.

COLOMBO.

This is also known as foreign calomba. It is an intensely bitter tonic and is frequently an ingredient of stomach bitters. As an appetizer, the infusion in tablespoonful doses should be taken at meal times, or

the powder, in five grain doses, may be given in capsules with a little ginger. It is a most suitable agent to use in debilitated conditions where the stomach is exceedingly weak, as after protracted spells of sickness.

CORN SILK.—Stigmata Maidis.

Ordinary corn silk has been accepted as a remedy possessing great virtue in irritable conditions of the urinary organs. It is a gentle article of stimulating and relaxing properties, leaving behind a tonic impression, and at the same time displaying demulcent characteristics. It is best used in fluid extract form; dose, half a teaspoonful four times a day; and its value is increased by combining it with dandelion and shepherd's purse. With agrimony it is excellent for bed-wetting (eneuresis). The infusion may be used very freely, though with some it may prove slightly nauseating. The fluid extract in syrup is very pleasant to the taste. As a nervine in neuralgic troubles, caused by irritation of the female organs, it will be found serviceable.

COUCH GRASS.—Triticum.

This is a very annoying weed, often spoken of as quitch grass. It grows abundantly, the root spreading and sending up numerous off-shoots. Medicinally it is classed as a mild, stimulating demulcent, acting chiefly upon the kidneys and bladder and urinary passages. It will prove very soothing in cases of irritation of the kidneys, bladder or urethra, and is especially valuable in gravel, many declaring that it will dissolve small calculi. It is best used as an infusion, drank freely. The fluid extract well represents the plant, and may be used in ten-drop doses every four hours, or combined with such agents as dwarf elder and peach leaves in syrup form. There are several compounds of triticum on the market as proprietary medicines, but those containing poisons should be avoided.

CREAM OF TARTAR.

This affords a very pleasant drink in feverish conditions, a teaspoonful to a glass of cold water, a few swallows only to be taken at frequent intervals. Some prefer to add lemon and sugar to cream of tartar drinks. It is an excellent addition to butternut syrup. Large doses act upon the bowels and increase the discharge of urine.

DANDELION.—*Taraxacum dens Leonis*.

This common field plant may be used to great advantage as a medicinal agent, the root being the part employed. It has gained a reputation in the treatment of dropsy, and undoubtedly exerts an influence upon the kidneys, especially when the kidneys are disturbed on account of torpidity of the liver. *Taraxacum* is a slow tonic, and is best employed in chronic difficulties where slow action can be depended upon.



DANDELION,

The root of the dandelion is the part to be used. This should be boiled in order to extract its qualities; an ounce to the pint of water, taken in half-cupful doses. When combined with peach leaves it makes a most soothing preparation for inflamed conditions of the kidneys.

DOGWOOD.—*Cornus*.

The dogwood tree with its peculiar flowers, blooming in early spring, is well known to all. The flowers and the bark of the tree are used in medicine, and are very acceptable tonics. The flowers strongly resemble camomile in their action, being soothing and tonic,



DOGWOOD.

and well adapted to weakened and debilitated conditions of the stomach.

The bark is a more decided tonic than the flowers, possessing considerable astringency.

By some, dogwood is prized in ague; but it is better adapted to the diseases caused by weakness of the stomach and bowels. The fluid extract is sold; but an infusion is used to advantage. Combined with goldenseal and ginger the powder may be given in capsules after meals to overcome

water brash and other stomach weaknesses.

DWARF ELDER.—*Aralia Hispidula*.

This agent is much employed on account of its action upon the kidneys, which it stimulates to a marked degree, increasing the flow of urine, and at the same time influencing the bowels. Half a cup of the cold infusion may be used at a time every three hours, made by steeping an ounce of the root in a pint of boiling water. The fluid extract may be obtained; dose, a teaspoonful.

ELDER.—*Sambucus*.

“Elder blow tea” has long been used to influence the skin and kidneys in febrile diseases. The bark in decoction is often employed as a mild cathartic.

Elder berries are sometimes substituted for blackberries in making a cordial. Elder ointment for cuts and bruises is made by slowly heating for a long time a pound of elder bark in two pounds of lard and a quarter of a pound of mutton suet.

ELECAMPANE.—*Inula*.

This is an old-fashioned household remedy, but it is none the less useful on that account. In fact, should the medical profession abandon their mysteriously concocted preparations, their anti-this and anti-that, and fall back upon the old remedies of their grandmothers, their patients would be better off. If women, without medical knowledge, could use to such advantage the well-known household remedies, how much better could those remedies be used when administered intelligently by skillful hands.

Elecampane root is a stimulating expectorant, and is best adapted to old coughs. An ounce to the pint of hot (not boiling) water makes the usual infusion, but it is best used in combination with other agents in the form of syrup. A good formula is, elecampane and spikenard, each one ounce; wild cherry bark, four ounces, for one quart of syrup (see syrups) and add one ounce fluid extract of *lippia Mexicana*.

ELM BARK.—*Ulmus*.

Slippery Elm has been used as a household remedy for many years—the inner bark of the tree being the part used. It possesses most pronounced mucilaginous properties, making it valuable in irritable or inflamed conditions of the mucous membrane, such as are present in inflammations of the stomach, bowels and kidneys. For such difficulties the bark should be placed in cold water for some time, which may be then strained and drank freely. Hot water renders the infusion too thick. For irritable coughs and sore throat the bark may be chewed and the saliva swallowed. For poultices the ground bark should be used, soft-

ened with water containing a little glycerine. For enemas, slippery elm is valuable as a means of soothing the lower bowel.

EPSOM SALTS.—Magnesium Sulphate.

This is a natural product and is the chief ingredient of the bitter waters at Epsom, England. It is often spoken of as bitter salt. In appearance it is somewhat like coarse table salt, only the crystals are more needle-like. It is intensely bitter to the taste, and dissolves very readily in water. Medicinally it is used as a physic, and is most excellent in cases where quick action is needed, especially where there is feverishness. When the surface is cold, or when the patient is emaciated or very feeble, Epsom salts should not be used. Nor should it be relied upon for continued constipation. The ordinary dose is a large tablespoonful, best given in strong lemonade, although the salt may be simply dissolved in water, and some prefer half a tablespoonful in a solution of senna. It should cause a watery stool within four hours.

FEVERFEW.—Pyrethrum.

This is a very common plant in household gardens and bears a flower valued for its beauty. It very much resembles camomile in appearance. As a remedial agent the flowers, usually given in infusion, will be found serviceable in relieving suppressed or painful menstruation brought about by exposure to cold.

FLAX SEED.

Flax seed or linseed is much used in medicine, both internally as a demulcent and externally as a poultice. Where there is inflammation of the mucous membrane flax seed will usually be found serviceable taken as a drink, either warm or cold. A tablespoonful of the whole seed steeped in a pint of hot water

for an hour and then strained will be useful in dysentery or flux, or in inflammations of the bladder and kidneys. Or such an infusion may be made into a soothing cough medicine by adding to it half a pound of sugar, the juice of one lemon and a fourth stick of ordinary black licorice; a little ginger if there is paleness; or a small quantity of spikenard if there is too little expectoration. For soothing injections to the lower bowel a boiled and strained infusion will be found best. As a poultice the ground seed should be used, and medicaments may be mixed with it or sprinkled over the surface.

GENTIAN.—*Gentiana Lutea.*

In medicine the foreign gentian root is used as a bitter tonic, and as such it is unexcelled, although for mild cases it should always be combined with less intense agents. Its chief action is upon the liver and stomach, and for sluggishness of the liver with dyspepsia it is most excellent. For ague it may prove effective when other agents fail, taken for several hours before the chill, in hourly doses of a half teaspoonful of the fluid extract with a little red pepper added.

Compound Syrup of Gentian.—This has been frequently referred to in the preceding pages, and is prepared as follows: Take one ounce each of gentian, ginger and wahoo and two ounces each of goldenseal, boneset and dwarf elder, and a little orange peel and coriander seeds, and make into a quart of syrup (see syrups). This compound is one that may be relied upon wherever a bitter tonic is needed. Dose, two teaspoonfuls before meals.

GERANIUM.—*Crow's Foot.*

This is a well known wild flower, growing in sparse woods and fence corners; recognized by its delicate purple flowers upon slender stems; it must not be con-



GERANIUM.

founded with the so-called cultivated geranium. The root is the portion used for medicinal purposes.

Properties.—Geranium is decidedly astringent in character, and yet it is not harsh in its action and can be taken by sensitive persons. It should be used in relaxed conditions and will be found excellent to relieve profuse menstruation, diarrhœa and hemorrhages, and as a wash for sore mouth and bleeding gums. For such purposes an infusion, one ounce to the pint of boiling water, is best, given in small doses.

The powdered root may be used as a snuff for excessive catarrhal discharges, and also to stop bleeding of the nose.

GINGER.—Zingiber.

This universal agent is a most pleasant diffusive stimulant, and is excellent for chilliness, new colds, colic and disturbances of the circulation. It quickly sends the blood to the surface, and its prompt use may avert a spell of pneumonia or other serious malady. It is best given by infusion. A pleasant way of preparing it is to mix thoroughly half a teaspoonful of pulverized ginger and a teaspoonful of sugar and pour upon it a cup of boiling water and add a little cream. The tincture of ginger is readily procured and is an excellent form of ginger to keep on hand for emergencies. Jamaica ginger is stronger and better than the African variety. The external application of the infusion or tincture of ginger over the abdomen often gives relief in colic. Syrup of ginger is made by adding six

drachms of the tincture to a pint of simple syrup; it is a good basis for many preparations.

GLAUBER SALT.—Sodium Sulphate.

This is a salt much used as a cathartic, and its action very much resembles that of Epsom salts. A tablespoonful or more constitutes a dose to be taken in water, and will act within five hours. This salt should not be relied upon for constipation, but should be given only when a prompt cathartic is demanded.

GOLDENSEAL.—*Hydrastis Canadensis*.

This agent, also known as yellow puccoon, cannot be too highly esteemed as a tonic for the stomach and liver; and on account of its influence upon all mucous membranes it is invaluable. Its proper place for usefulness is in congested conditions. Weakened stomachs with feeble digestive powers are greatly benefited by its use; and combined with scullcap and a little ginger it can be used to great advantage in nervous troubles which are apt to follow or accompany dyspepsia. For ordinary diarrhoea it can be used with raspberry leaves or neutralizing cordial or wild cherry bark. It sustains the circulation of blood in the veins, and on that



GOLDEN SEAL

account is valuable in heart affections where the extremities are prone to become cold and the lips bluish. In such cases it should be combined with cayenne and scullcap. Thus a weakened heart may be greatly sustained.

Goldenseal is best given in infusion, half a teaspoonful to a cup of boiling water, taken cold. When combined with other agents it should constitute one-fourth part of the whole. Locally it is used to advantage in many skin difficulties, such as eczema, erysipelas, etc., for which purpose the fluid extract should be mixed with glycerine. The powder may be sprinkled over poultices for sores that are of a dark color.

Hydrastia sulphate is a concentrated preparation which may be used instead of the ordinary goldenseal and is superior to it as an eye-wash; one-half grain to an ounce of rose water, and a little alum added for granulated lids. As a tonic for intestinal indigestion one grain of sulphate of hydrastia may be combined with a grain of tartrate of iron and potassa and half a grain of capsicum, given in capsule after each meal. The phosphate of hydrastia is similar in every respect to the sulphate. Hydrastine parvules contain one-tenth grain each of hydrastine and are suitable for sensitive persons.

GUM ARABIC.—Acacia.

This is a well known article and is of great service wherever a soothing demulcent is needed. It is a perfect mucilage and will dissolve in hot or cold water, but not in alcohol. In fever cases where the mouth becomes dry and thirst is great, and especially when the throat, stomach or bowels are inflamed, a teaspoonful of gum Arabic dissolved in a glass of cold water and given in tablespoonful doses at short intervals will be gratefully appreciated by the patient and prove very soothing to the inflamed surfaces. Made into a mucilage it is often used instead of simple syrup as a basis for preparations of fluid extracts to be used by persons who cannot endure sugar. Such preparations should contain one-fourth part of glycer-

ine as a preservative. A weak solution of gum Arabic will prove a soothing enema for dysentery.

GUARANA.—Paullinia Sorbilis.

This is a powerful nervine prepared from the seeds of a Brazilian plant. The fluid extract is much used, as well as the active principle—guaranine. It gives speedy relief in headache caused by over-working the brain, or from exhaustive diseases where there is a tendency to faintness. Its main action is due to its active principle, which is very similar to theine and caffeine in tea and coffee. Dose of the fluid extract, ten drops in water, repeated every half hour for three doses. Dose of the guaranine (in powder), five grains. In cases of neuralgia from depression of the nervous system it is most excellent. Persons with weakness of the heart should not use guarana freely.

GLYCERINE.

This household article, besides being an excellent application for chapped hands and other skin troubles, is a most useful agent to add to various preparations, as a substitute for alcohol as a preservative. One-fourth part of glycerine and three-fourths of water will preserve drugs as a tincture. Internally glycerine acts as an expectorant in coughs, and as a mild laxative in chronic constipation. Suppositories made of glycerine solidified with pure glue will be found most excellent for old cases of obstinate constipation, or to use with children instead of enemas.

HOLLYHOCK.—Althea Rosea.

This is a common garden flower, but in its proper place is a valuable agent for medicinal purposes. The flowers are used as a demulcent, and an infusion of them will be found very soothing in all inflamed conditions of the alimentary and urinary tracts, and

especially so in inflammations of the kidneys or bladder. The flowers may be dried in the shade and kept for winter use without losing their virtue.

HONEY.—Mel.

For centuries honey has been used for recent coughs, and it enters into many preparations. With hops and a little lobelia it makes an excellent remedy for bronchitis. Combined with sage and borax it has long been valued as a remedy for sprue or thrush of children, and added to ordinary gargles it will increase their efficiency.

HOPS.—Humulus.

This old-time plant is an excellent agent for many conditions. The flowers are usually employed in infusion, half an ounce to the pint, in doses of three tablespoonfuls every three hours, though the fluid extract may be used in ten-drop doses. An infusion of hops is an excellent nervine, and is much used for sleeplessness; and it is an old custom for sleepless persons to rest the head upon a pillow filled with dried hop flowers. The fluid extract is often used in cough syrups where there is nervousness, and in heart palpitation ten drop doses of the fluid extract will be found serviceable. A hot fomentation of hops applied to the face will give ease in neuralgia and ear-aches; and as a poultice for suppurating abscesses of a painful character it will afford relief.

HYDROGEN PEROXIDE.

This is a powerful antiseptic and detergent. It may be obtained in sealed bottles, as a clear liquid, in appearance identical with water. It must be kept closely stoppered and in a dark and cool place, otherwise its strength is rapidly lost. It will mix with water in any proportion and is usually employed di-

luted one-half, though in very mild cases ten per cent solution will answer, and in severe cases full strength may be required.

It is chiefly used to cleanse abscesses or cavities of pus or degenerate matter. For such purposes it is injected into the cavity by a rubber or glass syringe (metal is corroded by it). Instantly there will be a discharge of frothy matter. As a spray (diluted) it is of great service in nasal catarrh and discharges from the ear. In putrid sore throat and diphtheria it is invaluable. In diphtheria small amounts of tincture of myrrh and fluid hydrastis should be added and employed freely (see Diphtheria). In all putrefactive conditions it may be depended upon to perform its service.

IRON.—Ferrum.

The use of many forms of iron in medicine is based upon the fact that the blood contains iron, and it seems plausible that iron taken into the system will enrich the blood. Such is the common belief, but the amount of iron in the whole body is but a few grains, and the maintenance of this small proportion depends upon the iron taken into the system along with organic compounds as food, and not upon the crude element administered as medicine. Non-poisonous iron compounds undoubtedly aid intestinal digestion, and thus the blood is enriched. They are suitable for anæmic conditions (see anæmia). The following may be mentioned:

TARTRATE OF IRON AND POTASSIUM.—Two drachms of this and ten grains of sulphate of hydrastia and one drachm of citric acid dissolved in one pint of water will make a most excellent tonic for feeble digestion; dose, a tablespoonful before meals. Keep in a very cool place.

CITRATE OF IRON.—This may be used instead of the above.

REDUCED IRON.—A gray powder; dose, three to five grains.

CARBONATE OF IRON.—Often used in pill form.

IRON WATERS.—These natural waters are excellent for feeble persons with poor digestion and little blood.

JALAP.

This is an old-time physic of great power, but entirely too harsh to be used alone, and for that reason should be combined with milder agents and diffusives to prevent griping. Senna, ginger and cinnamon are good articles to use with jalap. The dose of the plain powdered drug is half a teaspoonful, operating inside of seven hours.

JUNIPER BERRIES.

For sluggish conditions of the kidneys juniper berries will be found most serviceable. They increase the flow of urine, but should not be used in sensitive conditions. An ounce of the berries to a pint of boiling water is the ordinary infusion. A more judicious method of employing juniper berries is to combine them with peach leaves and a little marsh-mallow root. Their harshness will thus be avoided, and the urinary passages soothed while the action of the kidneys is increased. Twenty drops of the fluid extract of juniper berries may be used in water every four hours, or combined with syrups.

KINO GUM.

This agent has been frequently mentioned throughout the body of this work, and its value makes it an important article of the materia medica. It is a pure astringent of a soothing character, leaving a decided tonic impression. Wherever there is great relaxation it will be found serviceable. For congested throat troubles it should be used as a gargle in infusion with ginger or other stimulants. For œdema of the glottis the tincture may be used slightly diluted with water. In this difficulty it is regarded as a specific, as also for

“falling of the palate.” Half an ounce of the tincture in eight ounces of neutralizing cordial increases the value of that preparation for diarrhœa and dysentery, or the plain infusion of kino given in tablespoonful doses every two hours may be used for these troubles. For hemorrhages of whatever nature kino is most excellent. Its value as a tonic depends upon its power to strengthen the walls of the blood vessels. A tablespoonful of gum kino to a large cupful of boiling water makes a suitable infusion. The tincture forms into a jelly by long standing.

LADY SLIPPER.—*Cypripedium Pubescens*.

The root of the American valerian has long been used as a household agent under the name of nerve root, and for a mildly relaxing nervine it cannot be equaled. So quickly does it relieve pain, restlessness, cramps, neuralgias, etc., that many suppose it possesses narcotic properties, but none such belong to it. During fevers its use is indicated for restlessness, and during the early fever stages of pneumonia, combined with a little lobelia and ginger, it will often cut short that trouble. Its infusions used with elm as an injection for dysentery will give relief. Added to neutralizing cordial it greatly lessens the pain or diarrhœa in children. As a persistent nervine in chronic irritable conditions of the nervous system it should be used with scullcap. Tablespoonful doses of the infusion (an ounce to the pint of hot, not boiling, water) every three hours, or oftener, is the best method of employing the agent. The fluid extract can be obtained; dose, fifteen drops in water, or combined with syrups.

LAVENDER.—*Lavendula*.

The flowers of the lavender plant are much employed in the form of tincture as a prompt and diffusive nervine in all forms of nervous depression, fainting, etc. The oil is a frequent ingredient of liniments.

Compound Spirits of Lavender may be procured at any drug store; the preparation consists of lavender flowers, two and a half ounces; cinnamon bark and rosemary leaves, each six drachms; ground cloves and nutmeg, each fifteen grains, tinctured in four ounces of alcohol and twelve ounces of water. A most excellent and prompt nervine for fainting or nervous spells.

LICORICE.—*Glycirrhiza Glabra*.

Ordinary licorice root is not now used as much as formerly, though the black extract is a well known remedy for irritable coughs. It is best combined with black cohosh, wild cherry, or similar articles. A pleasant drink is composed of flaxseed, ginger, lemon and licorice, with sugar, made into an infusion. Too much licorice is apt to sicken the stomach or even produce vomiting from its relaxing character.

LIME WATER.—*Aqua Calcis*.

This is a most useful remedy to have about the home, giving relief for many transient troubles. It is chiefly used to correct sourness of the stomach, or stomach troubles accompanied by nausea or actual vomiting after meals; a tablespoonful in milk an hour after meals being the usual method of employing it. For infants it is invaluable where artificial feeding is resorted to; a teaspoonful or more being added to each nursing to correct diarrhœa or frequent vomiting. Mixed with an equal amount of linseed oil until an emulsion is formed, lime water will give relief as an application to burns, and will often prevent serious consequences.

To prepare lime water, gradually pour a pint of water over an ounce of quick lime; stir and allow it to settle about an hour; pour away the water, and to the then slaked lime add a gallon of pure water; let it settle fifteen minutes and pour the clearer liquor into bottles to be kept well corked. It will not deteriorate by age.

LIPPIA MEXICANA.

This is a stimulating and relaxing agent, soothing to the throat and air passages, and also somewhat demulcent. It is very useful combined with syrup of wild cherry or other lung tonics. It will increase expectoration and prove very grateful in old coughs to relieve tickling in the throat and feelings of stuffiness in the bronchial tubes. It is very pleasant to the taste, but should not be too freely used lest it provoke nausea. Dose of the tincture, ten drops. One drachm of the tincture will be found sufficient to add to four ounces of cough syrup.

LITHIA COMPOUNDS.

Lithia is an alkali very closely related to potassa and soda; and its compounds are valuable as solvents of uric acid, the deposits in the joints and dense structures, which are mainly the cause of suffering in rheumatism.

Lithium Carbonate.—This is a white alkaline powder, insoluble in alcohol but rather freely soluble in water. Dose, five to ten grains in water between meals. It will be found serviceable in persons of rheumatic tendency when their kidneys are not acting properly, as will be shown by puffiness under the lower eyelids. It increases the flow of urine, especially aiding in eliminating the solids of the urine by dissolving the uric acid.

Citrate of Lithia.—This is a white powder of neutral reaction. It is much more soluble than carbonate of lithia, and is also slightly soluble in alcohol. It is not so strong as the carbonate, and double the dose should be administered. It is almost tasteless and is not at all disagreeable. Dose, ten to twenty grains.

Lithia Tablets are convenient for use, a dose being one tablet in a glass of water.

Lithia Waters are much lauded for the cure of gout and rheumatism, and are undoubtedly most useful in

those difficulties. They dissolve the deposits of uric acid and render it possible of elimination by way of the kidneys. Lithia waters are most valuable aids to proper medication and hygienic regulations. Rheumatic persons will do well to drink of them.

LOBELIA.—*Lobelia Inflata*.

This plant grows wild in most sections of the country, and is often known as Indian tobacco, on account of its tasting similar to ordinary tobacco, although it is in no way related to tobacco and does not contain nicotine or other poisonous properties.



LOBELIA.

Medicinally, lobelia is a pure relaxant, exerting its chief action upon the muscles and mucous membranes. It greatly softens the skin and induces perspiration, being on that account valuable in fevers. For irritable conditions of the nervous system it is invaluable, and can be relied upon in ordinary convulsions. For nervous troubles it should be combined with some nervine, such as lady slipper. As an expectorant it may be used to great advantage in small doses for colds along with decided pulmonary agents. For spasmodic croup it is invaluable, and it has also gained a great reputation for asthma. Along with powerful nervines, such as blue cohosh and scull-cap, it has been successfully used in lock-jaw. Large doses will relax the whole system completely, so that even the

smallest muscles cannot be used. This condition is termed the "alarm," and is uncomfortable although not dangerous, unless poisons should be then adminis-

tered, which are in that condition quickly absorbed. To overcome the condition of alarm, administer composition (see formulas) freely.

As an emetic, lobelia cannot be equaled. Its method of use for such purpose is mentioned under Emetics; it can be thus used with safety. As an outward application it is most valuable wherever there is inflammation. It can be added in tincture form to liniments, or used mixed with or sprinkled upon poultices, either in the form of the powdered herb or ground seeds. As a nervine, two grains of the powdered seeds in a capsule may be given every two or three hours.

An ounce of the herb to the pint of boiling water makes an ordinary infusion, to be administered in tablespoonful doses every hour or half hour. A weak infusion given in teaspoonful doses every ten minutes (termed "broken doses") will thoroughly relax the muscular system and prove a great aid in reducing fractures and dislocations, especially if cloths wrung out of the warm infusion be applied over the seat of the difficulty. For convulsions, injections of the herb as infusion is best. Never administer lobelia where the system is relaxed or when there is congestion, and do not apply it upon indolent ulcers or dark sores.

MAGNESIA.—Calcined Magnesia.

This is one of the mildest forms of alkalies, and is to be used for soreness of the stomach and in summer diarrhœa. It is given in tablespoonful doses, first pulverized and rubbed with sugar and then mixed with water or milk. This agent will usually cause a movement of the bowels within six hours.

Citrate of Magnesia.—This is a most pleasant and slightly acid preparation, much used as a mild laxative. It is obtained ready prepared at the drug stores.

Phillip's Milk of Magnesia is a most acceptable form of using the article. It comes as a milky preparation, and is most serviceable in acid conditions of the stomach and bowels, or as a laxative. It may be used instead of neutralizing cordial as a basis for many com-

binations. One drachm each of fluid extracts of goldenseal and wild cherry, flavored with essence of anise, will make a pleasant and efficient preparation for summer diarrhœa.

MALTED MILK.

This is a truly valuable preparation, used as a substitute for mother's milk with nursing children, and as a diet for invalids and feeble persons, and as an elegant form of nourishment for persons exhausted by over-work or worry. It is recommended extensively throughout this volume. As a table drink for children it cannot be equaled. Women in confinement will do best by drinking it liberally and leaving tea and coffee alone. Dyspeptics will find it the most easily digested form of nourishment obtainable. It is sold in the market in glass jars of various sizes, the full directions for use being printed upon the labels. Of itself it will provide all the nourishment needed in fever cases and protracted exhaustive disease—none being too feeble to digest it. Lately tablets of Malted Milk have been placed upon the market. These are most pleasant for those who wish concentrated and easily digested food in solid form. The well and hearty will find them convenient for luncheon in the midst of work, bicycle riding, etc.

MALT PREPARATIONS.

There are placed upon the market many preparations containing malt, many of them being but sweetened and thickened beer, but others being pleasant and useful preparations, aids to digestion and decidedly tonic to the stomach. Johann Hoff's Extract of Malt is a most pleasant beverage for those suffering from feeble digestion and bordering upon anæmic conditions. Dose, a wine-glassful at meal times.

Maltine with Wine of Pepsin is an elegant preparation and is of great service when digestion is feeble. It greatly facilitates the digestion of starchy foods,

and produces a tonic effect upon the stomach. Dose, a small wine-glassful at meals. Children should be given half the amount diluted with water. Its long continued use cannot fail to be beneficial in the class of cases indicated.

MANDRAKE.—May Apple.—*Podophyllum*.

This is a very common plant, growing wild in the woods throughout the country. It flowers in the spring and the fruit, known as May Apples, is rarely developed until July. It is not unpleasant to the taste and is not particularly medicinal.

The green root of mandrake is acrid and apparently contains a poisonous juice. The dried root is used as a medicine, and is a harsh cathartic. Half a teaspoonful of the powdered root will produce a free movement of the bowels in four or five hours. It is best adapted to sluggish conditions.



MANDRAKE.

Podophyllin is the concentration prepared from mandrake. It is a very powerful cathartic. Two grains, given in capsule, should be considered a large dose. It is best used in combination as follows: *Podophyllin*, one-eighth grain; *euonymin* and *leptandrin*, each one grain; administered in capsule.

MARIGOLD.—*Calendula*.

The tincture of the ordinary garden marigold is far to be preferred to tincture of arnica or the tincture of witch hazel in all cases where those agents are ordinarily employed, such as bruises, sprains, cuts, etc. For sore mouth and ulcerated conditions of the ears it is most excellent.

MARSH MALLOWS.—*Althea Officinalis*.

This is a well known dooryard plant, often spoken of as cheese mallows. Its root is a valuable demulcent, very soothing to irritated conditions of the bowels and urinary tract. The dried root cut into small pieces can usually be obtained at most drug stores. This, carried in the pocket, may be constantly chewed and the saliva swallowed for soothing inflamed conditions of the bladder or kidneys.

MENTHOL.

This is a white, crystalline substance obtained from foreign oil of peppermint. It may be obtained in mass, very much resembling gum camphor; but it is usually sold in "pencils" enclosed in cases with a screw cap, to avoid evaporation. When rubbed over the forehead it will relieve headache, and when rubbed over nerve tracts it will speedily lessen the pain of neuralgias. Its influence is only temporary, as it does not seem to produce any permanent effects.

MENTHOL INHALERS are prepared by placing menthol crystals in a small tube and inserting cotton or fine wire gauze at the ends to keep the crystals in place. The open tube is placed to the mouth or nostril and air inhaled through it. While this usually affords relief for tickling of the throat or painful catarrh, it does not cure throat or nose troubles, even though used a great length of time.

MOTHERWORT.—Leonurus Cardiaca.

Motherwort is a well known wild plant, growing abundantly. It has long been used by women for tardy menstruation. It is a fine tonic nervine, especially strengthening the heart, and may be used to advantage in palpitation, hysterics, heart weakness and restlessness. It is best given by infusion, half an ounce to a pint of boiling water; dose, two table-spoonfuls every two hours. Taken at meal time it is an excellent aid to digestion in nervous conditions.

MULLEIN.—Verbascum Thapsus.

This plant, sometimes spoken of as the American velvet-leaf, grows abundantly throughout the country, and its leaves can be easily dried and preserved. They will be found most serviceable in many conditions. Made into a hot poultice they may be applied wherever absorption is desired, as in dropsy of the joints, deep-seated chronic abscesses and persistent swellings. For sciatica, spinal tenderness and inflammatory rheumatism tincture of mullein may be used as a liniment along with tinctures of black cohosh and lobelia.

A syrup of mullein is excellent for irritable coughs. The infusion may be made by pouring a pint of boiling water on the dried and well broken leaves, which swell greatly. A poultice of mullein leaves, lobelia and black cohosh will give great relief in neuralgia of the face.

MUSTARD.—Sinapsis.

Ordinary mustard has long been employed as a plaster wherever it is desirable to quickly draw the circulation outward or away from the head or other congested portions of the body. For such purposes one part of mustard and four parts of wheat flour made into a paste with warm water will be sufficient. This should be spread over muslin and applied for not

longer than half an hour, as a blister is liable to follow. Stronger plasters may be prepared for more urgent cases. An infusion of mustard in a bucket of water is an excellent foot bath when it is desired to call the blood from the brain, lungs, etc. Mustard emetics are quickly effective in cases of poisoning. A teaspoonful of mustard to a large teacupful of boiling water, drank in one dose, will usually be followed promptly by vomiting, especially if the finger is thrust into the throat.

MYRICA.—Bayberry.—Wax Myrtle.

This is a most useful remedy as a stimulating astringent. It is best given as an infusion—one ounce of the powdered bark to a pint of hot water. Combined with ginger and pleurisy root it is invaluable for breaking up severe and recent colds. It is an ingredient of "composition," mentioned elsewhere. With goldenseal and a little borax, it is excellent for sore throat with malignant tendency. With beth root it may be used for leucorrhœa and excessive menstruation. An excellent snuff for the profuse discharge of nasal catarrh consists of bayberry, one part; goldenseal and cherry bark, each two parts. Bayberry should not be used in dry and irritable conditions.

MYRRH.

This is one of the most valuable remedies in the whole materia medica. It is usually spoken of as gum myrrh, although it contains little gum, but chiefly resin. In whatever form it is used myrrh will be found a powerful antiseptic; having thousands of years ago been used for preservative purposes, and also as a medicine. It is usually administered as a tincture in water or syrup, although the powder may be given to great advantage. Two grains of powdered myrrh may be considered an average dose, best given combined with other agents. It will be found advantageous to rub the myrrh thoroughly with sugar

before making an infusion. A small teaspoonful each of myrrh and goldenseal to a pint of boiling water and a little ginger added will be found useful to weak stomachs where the food is prone to ferment. Dose, a teaspoonful every two hours. For deficient menstruation it has long been employed.

Outwardly applied it is invaluable for foul ulcers, bed-sores and all forms of gangrene; best mixed with powdered charcoal and sprinkled over poultices of brewer's yeast, or the simple powdered myrrh with a little goldenseal may be sprinkled into indolent sores. Myrrh and goldenseal with a little borax may be blown into the throat of persons suffering from diphtheria; it will destroy the putrescence of the membrane and prevent blood poisoning. Powdered myrrh is a superior tooth-powder, especially where the gums are tender and bleeding. Tincture of myrrh may be diluted with glycerine and water for external use, or with simple water (a few drops to a glassful) for internal use.

COMPOUND TINCTURE OF MYRRH, commonly known as Number Six, is a powerful stimulant and antiseptic. It is a tincture of myrrh, two ounces, and red pepper, half an ounce, in a quart of alcohol. It is unequaled as an antiseptic for foul ulcers and is superior, when diluted, to every other antiseptic in operative surgery. Internally, a few drops in a glass of water will prove a powerful stimulant in shock, collapse, prostration and profound congestion.

NUT-GALLS.

These are excrescences found upon the small branches and leaves of young oak trees. They contain tannic acid and are intensely astringent in character. Three of the galls are sufficient to make a pint of infusion with boiling water. The infusion is useful wherever a strong astringent is needed. Many check the bowel troubles of children by the use of milk in which nut-galls have been boiled, but the preparation is not advisable if milder means are at hand.

ORANGE.

The juice of orange is usually most acceptable to weak stomachs during febrile and prostrating diseases, and is often the only nourishment relished by dying persons. It can be used freely during all fevers; the patient usually desiring to suck the juice from sections of the fruit. Orange peel is a pleasant bitter tonic. It may be added to stomach bitters to great advantage. Candied orange peel is a very pleasant confection, and if not used too freely, will aid digestion and increase the appetite.

PEACH.—*Amygdalus Persica*.

The leaves of the ordinary peach tree are a most excellent soothing tonic to the stomach, and for irritated conditions of the urinary tract. Along with corn-silk or queen of the meadow infusion of peach leaves will be most useful in inflammations of the bladder or kidneys. An infusion is prepared by steeping a small handful of the leaves in a pint of hot water, to be used freely as a drink. Do not allow the infusion to stand over night, as by fermentation prussic acid will be formed. When juniper berries or other strong diuretics are administered it will be found best to combine them with peach leaves to allay possible harsh results. Peach kernels will be found an excellent tonic to the stomach when combined in small proportion with other and milder agents. They also give pleasant flavor to stomach preparations in general.

PENNYROYAL.—*Hedeoma*.

This little plant, so common throughout the land, is most excellent, when taken as infusion, for the relief of colic and of ordinary coids. It has long been used by women to promote menstruation. The oil combined with various essential oils may be used as a liniment.

PEPPERMINT.—*Mentha Piperita*.

The essence of peppermint is a standard article for wind colic and cramps, a few drops in water or on sugar being the best method of employing it. The herb may be made into an infusion which may be freely used as a drink. The oil is usually employed to flavor syrups; eight drops, first rubbed up thoroughly with sugar, will be sufficient to flavor a quart of syrup.

PEPSIN.

There are several fluids in the body which must be mingled with the body before it can be properly digested. The gastric juice of the stomach which chiefly prepares the food for assimilation, and the active principle of this fluid is called pepsin. The pepsin which is used medicinally is prepared from the stomach of the hog.

Pure pepsin in the market is in the form of pale yellow, crystalline flakes, two grains of which in a little water acidulated with vinegar or lemon juice, and taken at meal time, will aid digestion in those who have little gastric juice, but its use should not be persisted in, it being best to improve the tone of the stomach by suitable tonics. Lacto-peptine is pepsin thoroughly rubbed up with sugar of milk (lactin) and lactic acid. It is much milder than pure pepsin and preferable to that article. For children suffering from diarrhœa it greatly aids in sustaining nutrition.

PEPTENZYME.

One of the exceptionally fine preparations offered to the public as a digestant is Peptenzyme. It is claimed that this article contains the active principles of all the glandular ferments employed in natural digestion; and by its demonstrated efficiency in aiding digestion the claim seems to be substantiated. Not only does it facilitate digestion in the stomach, but it also performs active service in the intestines. Thus

it is of great value in cholera infantum and summer complaints. For elderly persons with loss of appetite and feeble digestive powers it cannot be too highly recommended.

Peptenzyme is prepared in three forms—as a powder, as tablets and as an elixir. The last form is best for infants and children. All three forms are extremely pleasant to the taste.

PERUVIAN BARK.—*Cinchona*.

Almost the world over Peruvian bark is used as a bitter tonic and as a remedy for malarial troubles. It is a stimulant to the nervous system and also has marked astringent properties, for which reason it should not be given when the tongue is dry and the secretions scanty. It sustains the nervous system and may be relied upon in the chills of ague to lessen their severity. In other diseases of a low form when the system is being exhausted by excessive discharges, Peruvian bark will be found beneficial. Dose of the powder, five to twelve grains, best used combined as infusion. Compound tincture of cinchona consists of Peruvian bark, six ounces; Virginia snake root, one ounce; rind of bitter orange, three ounces, macerated, in a pint of alcohol, and three pints of water. Dose, one teaspoonful in water three times a day. See Quinine.

PLEURISY ROOT.—*Asclepias Tuberosa*.

This is frequently known as butterfly weed, or white root, and is that species of milk-weed of a shrubby growth bearing orange-colored flowers. It is a valuable medicinal agent, best administered as an infusion of half an ounce to a pint of hot water; dose one-fourth of a teacupful. It is the most effective of safe sweating agents, and in feverishness may be used abundantly until a free perspiration is secured. In high fevers, where quick action is desirable, the ordinary dose may be given every half hour or even oft-

ener, or if there is great restlessness, lady slipper may be added. In feverishness from recent colds, a little ginger should be combined with it. For colic in children pleurisy root and wild yam make an effective tea with a little ginger. For peritonitis pleurisy root combined with a very small portion of lobelia will be found invaluable.

PIPSISSEWA.—Prince's Pine.—Chimaphila.

This is a well known evergreen herb, growing wild in the woods, and frequently spoken of as ground holly. As a remedy for dropsy and kidney troubles it has long enjoyed a good reputation. Its peculiar tonic and alterative properties, combined with a small amount of astringency, render it valuable in weakness of the kidneys and bladder. Combined with poke berries and American sarsaparilla, as a syrup, with a little citrate of lithia added, it is most excellent in rheumatism. A small amount of pipsissewa added to the compound syrup of yellow dock will add to the efficiency of that preparation in scrofulous and other blood troubles, where the urinary organs are particularly weak. A valuable preparation for chronic urethritis consists of two drachms each of fluid extracts of pipsissewa and goldenseal in eight ounces of compound syrup of stillingia.



PIPSISSEWA.

POKE BERRIES.—*Phytolacca Decandra*.

These have long sustained a fabulous reputation in rheumatism, and are of excellent use in that malady, especially when used with black cohosh and prickly ash. The juice of the berries preserved in syrup form may be used in teaspoonful doses every three hours. The fresh berries pounded to a pulp, or a poultice of the dried berries, will be found an excellent application in erysipelas. The poke root is used by many in rheumatism, but it is a poisonous article.

POND LILLY.—*Nymphae Odorata*.

The root of ordinary pond lily possesses value as a poultice for boils and ulcers on account of its astringent and demulcent properties. Infusion of the root has been used to advantage as a wash for leucorrhœa.

POTASSA COMPOUNDS.

Chlorate of Potassa (potash) has a cooling taste and crystalline appearance. It is used very much in ordinary throat troubles, either as a gargle in solution or in the form of lozenges, or by allowing crystals to dissolve in the mouth. It is inferior to ordinary borax for such purposes, and besides is very apt to injure the kidneys if freely used.

Bi-carbonate of potassa very much resembles bi-carbonate of soda, otherwise known as cooking soda. It is a useful alkali, and is of much service in rheumatic affections, and may be used as a substitute for bi-carbonate of soda, one-half of the potash being sufficient. In sluggish conditions of the urinary tract bi-carbonate may be freely used with copious amounts of water to great advantage.

PRICKLY ASH BARK.—*Xanthoxylum*.

This agent is a decided stimulant, and in power rates about midway between ginger and cayenne, al-

though used more generally in sub-acute and chronic cases where persistent stimulation is needed. It enters into many standard preparations, and is much valued in rheumatism. The infusion is prepared by using about one-fourth of a teaspoonful of the powder to a large cup of boiling water. The fluid extract may be obtained, and is the form best used to add to syrups. Prickly ash will increase the flow of saliva and moisten the dry tongue often found in liver troubles. An irritable stomach will not kindly receive prickly ash, which may even provoke vomiting in sensitive persons. Prickly ash berries have similar properties, and are usually given in the form of tincture.

QUEEN OF THE MEADOW.—*Eupatorium Purpureum*.

The root of this plant, also known as gravel root, is a relaxing nervine, capable of soothing and increasing the action of the kidneys. It is very useful in irritable conditions of the bladder and in kidney troubles accompanied by aching in the small of the back. Corn-silk may be added to it for tonic purposes. For the irritable conditions of the female organs it will prove most excellent. Dose, three tablespoonfuls or more every four hours of an infusion made by steeping one ounce of the root in hot (not boiling) water. The dose of the fluid extract is ten drops.

RHUBARB.—*Rheum Palmatum*.

The tough root of the India rhubarb is the article commonly employed medicinally under the name of rhubarb, although the Turkey and American (pie-plant) may be used, the American being the mildest variety. The powdered root is a valuable and prompt cathartic, useful in diarrhœa on account of its toning after effect; dose, one teaspoonful. Best used in syrup form.

Syrup of Rhubarb.—This is a very pleasant method of administering rhubarb and is best for diarrhœa;

given in teaspoonful doses every four hours. To prepare it, take two ounces of rhubarb, half an ounce of cinnamon, two drachms of bi-carbonate of potassa, macerate with half a pint of water, and after being strained, dissolve in the cold liquid one pound of sugar. Dose as a cathartic, one tablespoonful.

Aromatic Syrup of Rhubarb is similar though milder than the above, containing cloves and nutmeg, and well adapted to children's bowel troubles; given in half teaspoonful doses.

Compound Syrup of Rhubarb, neutralizing cordial; see formulas.

ROCHELLE SALT.

This is an efficient cathartic for use in temporary constipation, and can be taken without unpleasant effects. Dose, a tablespoonful or more in half a cup of water; acting within six hours.

SARSAPARILLA.—Smilax.

The foreign or Honduras sarsaparilla, is much used as a mild alterative for various blood diseases, and combined with burdock it is most excellent for scrofulous affections. It is best given in syrup form. A pound will make two quarts of ordinary syrup. The American sarsaparilla, technically known as *Aralia nudicaulus*, or little spikenard, is similar in properties and uses to the foreign article.

SASSAFRAS.—Laurus.

This is the inner bark of the sassafras tree, and has gained quite a reputation as an alterative. Its chief use should be to flavor alterative syrups, or as oil added to relaxing liniments for rheumatism or inflamed muscles or joints. Sassafras tea is highly prized by many as a spring medicine, but the stomach

does not endure it well, and "thin blooded" persons should not drink it.

SABBATIA.—American Centaury.

The herb of the centaury plant (not century) should be gathered while in bloom, and carefully dried. Its medicinal properties are mildly stimulating and decidedly tonic, exerting its chief power upon the stomach and gall-ducts, acting very much like gentian, only milder. It is an excellent agent to use for old cases of dyspepsia where there is a lack of tone in the stomach. In mild cases of ague or intermittent fever it may be employed to advantage. Taken as a warm infusion it will promote the menstrual function when delayed from weakness; and when combined with blue cohosh and other nervines it will be found beneficial in female weakness, prolapsus, etc. An ounce of the herb in a pint of boiling water will make the usual infusion. Dose, three tablespoonfuls every three hours. The fluid extract is obtainable, and may be used in half-drachm doses. It is occasionally used when quinine or cinchona preparations cannot be endured.



SABBATIA.

SCULLCAP.—*Scutellaria Lateriflora*.

This little herb is very abundant throughout the land, and derives its common name from the cap-like appearance of its small seed-pods. It is also known as hoodwort and as mad-dog weed. It is one of the very best tonic nervines, best used in the form of in-

fusion, an ounce to a pint of boiling water; dose, half a small teacupful every four hours. Combined with cayenne and goldenseal it cannot be surpassed in weakness of the heart. With lady slipper it is a grand aid in irritable nervousness. The name mad-dog-weed has been given it on account of its usefulness in hydrophobia and bites of poisonous snakes. Its fluid extract is a convenient form for use; dose, ten drops. For persons troubled by undue sexual desires, scullcap taken freely and persistently will prove a most efficient regulator, without doing damage of any character.

SENEGA.—Seneca Snake Root.



SENEGA.

This plant is found throughout the Southern and Central States, and was from remote accounts used by the Seneca tribe of Indians as a cure for snake bite poisoning.

The fresh roots possess an acrid odor which is not characteristic of the dried root. The taste is bitter, though somewhat sweet.

Properties.—Senega is a distinct stimulant to the mucous membranes, especially those of the lungs. It increases the secretions and circulation. It is a valuable expectorant in old cases, but is too irritating for recent coughs. Its use is indicated where there is prostration from blood poisoning, as in

mortification, hemorrhagic small-pox, etc. Its power to arouse the system and stimulate the secretions makes it useful in poisoning by snake bite. Pow-

dered senega may be given in ten-grain doses every four hours. Boiling water destroys its properties, and infusions should be prepared with luke-warm water. It is best combined with licorice or marsh mallows.

SENNA LEAVES.

For many hundreds of years senna has been used as a cathartic. It is prompt and efficient, although, when given alone, it will cause griping, and it should therefore be mixed with a little ginger or cinnamon and cream of tartar. A tablespoonful of the leaves, or a teaspoonful of the powder, to a cup of boiling water will make a suitable infusion to be taken at one dose. Syrup of senna is excellent. Senna should not be used in irritable conditions.



SENNA.

SHEPHERD'S PURSE.—*Capsela Bursa-Pastoris*.

This is a small herb which grows abundantly in fields, looking like ordinary pepper-grass, only the seed-pods resemble small pear-shaped purses, and the taste of the herb is not biting.

The medicinal properties of the herb are chiefly manifested by their action upon the kidneys and bladder, where they prove stimulating and moderately tonic. These characteristics render it very serviceable in congested conditions of the kidneys and blad-

der, and in catarrh of the urinary tract, known chiefly by large quantities of mucus in the urine. Combined with agrimony it is useful in bed-wetting (eneuresis). With peach leaves and mallows it makes an excellent drink where there is a gritty deposit in the urine. An infusion is made of one ounce of the herb to a pint of boiling water to be used freely as a drink. Dose of the fluid extract, half a teaspoonful four times a day.

SMART WEED.—*Polygonum Hydropiper*.

The leaves of this ordinary weed, growing in swampy places or along creeks, constitute a most pronounced stimulant. Combined with pleurisy root the article will be found of great service in causing perspiration. Hot fomentations of smartweed applied over the abdomen will relieve cramp-colic, dysentery, cholera morbus, inflammation of the womb, child-bed fever, etc. It is also of value as an application for gangrene.

SODA COMPOUNDS.

Soda Bi-Carbonate, also known as cooking soda, is the most frequently used of all alkalies. For sourness of the stomach it is a prompt neutralizer, although its use should not be persisted in. Dose for such purposes, half a teaspoonful in half a glass of water, sipped at intervals.

Caustic Soda is a most powerful alkali, burning whatever it comes in contact with and is used as a caustic to destroy warts and growths, degenerate edges of sores, poisonous bites, etc.

Soda Hyposulphite is in the form of crystals of a peculiar sulphurous taste, very soluble. A solution of fifteen grains to a cupful of water will greatly relieve sick headache caused by indigestion, given in teaspoonful doses every hour or oftener. Outwardly, applied as a wash, it is most excellent for many forms of skin affections, especially for ring-worm and for scald

head of children. It is unequalled for sore mouth from smoking, a crystal being allowed to slowly dissolve.

SPEARMINT.

This is a very mild mint, but its infusion will be found exceedingly useful as a drink in conditions of feverishness, and as an injection for restlessness of children. Essence of spearmint is highly prized by many as an addition to nervine liniments.

SPIGELIA.—Pink Root.

The root of this plant is the part used for medicine. The herb itself is quite attractive and blossoms during the early part of the summer. It grows wild throughout Pennsylvania and the country south of that State.

Properties.—This agent has long been regarded as a most excellent vermifuge; and it does undoubtedly answer admirably for that purpose when the many more valuable vermifuges are not obtainable. The dose for a child is from ten to twenty grains of the powder. It is better given by infusion, an ounce to the pint of boiling water. Dose, half a teacupful in the morning, followed by a dose of some active cathartic; or senna may be added to the infusion. By some this article is regarded as poisonous on account of the dizziness and drowsiness which sometimes follow its administration; but there is no evidence of its having directly proven fatal. Excessive doses are apt to prove irritating to the bowels and cause diarrhœa.



SPIGELIA.

SPIKENARD.—*Aralia Racemosa*.

For many years spikenard root, or spignet, has been used as an addition to cough syrups combined with other agents according to the nature of the cough. It is best given as fluid extract in syrup. In wild cherry syrup it is adapted to irritable conditions; with lippia Mexicana and elecampane it may be used in old coughs, and with coltsfoot and ginger for relaxed conditions. For compound syrup of spikenard, see chapter on Formulas.

SQUAW VINE.—*Mitchella Repens*.

This is a very pleasant though mild tonic, useful in weakened conditions of the kidneys and womb. A decoction may be used, or ten drops of the fluid extract for a dose every four hours; although it is best administered combined with other and stronger agents in syrup form. For compound syrup of *Mitchella*, mother's cordial, see Formulas.

STILLINGIA.—*Yaw Root*.

This agent is a most pronounced glandular stimulant, and for that reason is of great use, especially when combined with sarsaparilla, as an alterative preparation. It is best employed as fluid extract in syrup. For sluggish conditions of scrofula, or in syphilis or other diseased conditions of the blood, it is valuable combined with blue flag, pipsissewa, prickly ash and turkey-corn, under the name of compound syrup of stillingia; dose, a teaspoonful every four hours.

SUMAC.—*Rhus Glabrum*.

The well known upland sumac constitutes a most pronounced astringent, useful in infusion as a gargle for sore throat. The bark of the sumac is stronger

and makes an excellent wash for old sores, etc. The article is seldom used except by those who live in sections where it grows abundantly. A tea of the berries is sometimes grateful as a slightly acid drink to persons suffering from malarial fever.

TANNIC ACID.

This is prepared from nut-galls. It is a glistening, light yellow powder, soluble in water and leaving a pronounced astringent impression in the mouth. It is a pure astringent and the most powerful of all vegetable astringents. A small amount touched to a "fallen palate" will give instant relief. Rubbed up with vaseline, a drachm to an ounce, it makes an excellent ointment for relaxed conditions of piles and rectal troubles. Its infusion is an antidote for narcotic poisoning.

UVA URSI.—Bearberry.

The leaves of this ever-green shrub have long enjoyed a fabulous reputation in chronic affections of the kidneys and urinary organs. It possesses astringent properties; and is useful in diabetes, excessive flow of urine and profuse menstruation. In chronic forms of dysentery or diarrhœa it may also be used advantageously. Old cases of leucorrhœa and chronic urethritis will be relieved by its use. The dose of the powdered leaves should be twenty-five or forty grains. A strong decoction may be made by boiling half an



UVA URSI.

ounce of the leaves in a pint of water for ten minutes. Dose, half a cupful every four hours.

VALERIAN.

This is a well known nervine, but its disagreeable odor and nauseating taste render it very offensive to many. It is best given as a fluid extract, in ten-drop doses in water. It is valuable in hysterics and great nervousness, and for such purpose double the ordinary dose may be given and repeated every two hours until quietude is obtained. A little peppermint essence increases the promptness of its action.

VERVAIN.—*Verbena Hastata*.

This is the ordinary blue vervain common in all sections. An ounce of the herb makes a strong infusion, to be used freely in old cases of ague. It is intensely bitter, and has a strong influence upon the liver and stomach. Made into a syrup with twice its amount of wahoo and butter-nut it constitutes a valuable preparation for chronic constipation in malarial difficulties.

VIRGINIA SNAKE-ROOT.—*Serpentaria*.

This is a pure stimulant whose action is mainly employed in diverting the flow of blood outward; and for that reason it is largely employed in eruptive diseases during the earlier stages to hasten the eruption. Its action is so prompt that it has a great reputation for snake bites, hence



VIRGINIA SNAKE-ROOT.

its name. A quarter of an ounce of the root is sufficient for a pint of infusion. Dose, a tablespoonful. Too large or too frequent doses prove nauseating.

WILLOW.—*Salix*.

The bark of the willow is sometimes used as a bitter tonic, but its active principle, SALICIN, is far more valuable, and is very similar to quinine for ague and low grades of fever. Dose, three grains in a capsule every three hours, combined with half a grain of cayenne where there is great prostration; and also with half a grain of sulphate of hydrastia when the heart as well as the nervous system needs sustaining.

WINTERGREEN.—*Gaultheria Procumbens*.

The leaves of the ordinary trailing wintergreen yield a most valuable oil, which is used medicinally in the form of tincture. A few drops will be a pleasant flavor to many alteratives, and will also add greatly to stimulating and nervine liniments. The pure oil, given in ten-drop doses in capsules every six hours, has been largely used in rheumatism.



WINTERGREEN.

WITCH HAZEL.—*Hamamelis Virginica*.

This agent has gained a fabulous reputation, and one well deserved, as a mild astringent for diarrhœa, dysentery, sore mouth, inflamed eyes, burns, bruises, etc. The distilled extract is the cheapest and the

most pleasant form of using the agent; it is precisely the same as the famous Pond's Extract. The leaves may be made into an infusion and are stronger than the distilled extract. The tincture is useful in inflammations of the ear, and combined with other agents in liniments.

WORMSEED.—Jerusalem Oak.—*Chenopodium*.

This is a very common plant, growing wild in many places. It blooms during the late summer and early fall; the flowers being about the same color as the leaves and having a decidedly unpleasant odor.



WORMSEED.

Properties. — The medicinal value of the plant chiefly depends upon the oil which can be extracted from the seeds. It has long been used effectually as a vermifuge; and the infusion of the plant is often employed to promote menstruation and to overcome uterine colic. To expel worms, the dose of the oil is (for children) ten or twenty drops on sugar each morning, for several days, to be followed by a cathartic. Often an infusion of the plant in milk will prove effective in expelling worms. One ounce of wormseed oil in sixteen ounces of castor oil, with a small amount of turpentine added, is the formula of a well known worm remedy.

YELLOW DOCK.—*Rumex Crispus*.

The dried root of this common weed is a most excellent agent to use in diseases of the blood and glandu-

lar system, and is very valuable in scrofula, especially when discharges are free, as in running of the ears, or ulcerated eyelids. It may be used as infusion, but is best combined with other articles. The principal preparation containing it is known as compound syrup of yellow dock, or scrofulous syrup. See article on Formulas.

ZINC.

Chloride of zinc and sulphate of zinc are important, though very poisonous, disinfectants, and should never be used medicinally.

Oxide of Zinc is a white powder, non-poisonous, and valuable to dust over chaffed surfaces of fleshy people. Or an ointment of two drachms of the powder to an ounce of vaseline or lard may be similarly used, and it is also a good application as a drying salve. Rancid lard renders the ointment irritating.

ALTERATIVES.

Formulas for Blood Purifiers.

Remedies that exert their chief influence upon the purification of the blood are called alteratives or alterants. They are necessarily varied in character, as the blood becomes impure from many causes. The liver may be deranged and cause biliary products to enter into the circulation, discoloring the skin and in many instances causing eruptions. The kidneys may become enfeebled or engorged and allow urinary constituents to mingle with the blood and cause serious results and often most dangerous abscesses and other affections.

The lymphatic glands are most frequently at fault when the blood is diseased. These glands aid in carrying off effete material from the system by taking it

from the circulation. When from any cause these glands become inflamed or obstructed, the blood necessarily becomes impaired. Consequently, in nearly all disorders of the blood the lymphatic glands, situated in various parts of the body, will become enlarged and may be distinctly felt as kernels or swellings, especially in the neck, and occasionally these break down into abscesses.

Constipation, indigestion, impure atmospheric surroundings, improper or insufficient food and mental difficulties may be possible causes of diseases of the blood.

Remedies that bring about healthy changes in the circulation, do so chiefly by their influence upon the glandular system; and alterative preparations should be combinations of agents compounded in reference to the particular organs involved. The following have been found most efficient for use in the difficulties mentioned, and are especially valuable alteratives:

Compound Yellow Dock Syrup.

(Scrofula Syrup.)

Yellow Dock.....one-half pound.
Bittersweet Bark.....one-fourth pound.
Figwort.....two ounces.
American Ivy Bark.....two ounces.

Grind together and make into two quarts of syrup as directed under the article on syrups. The crude drugs should be macerated for forty-eight hours in equal parts of alcohol and water.

The dose of this syrup is a teaspoonful or two after meals. It is a most thorough alterative, and is especially beneficial in scrofula and in blood diseases where persistent and long continued medication is necessary.

Compound Syrup of Stillingia.

Queen's Root (Stillingia).....two parts.
Blue Flag (Iris Versicolor).....one part.
Elder Flowers (Sambucus).....one part.

Pipsissewa (Chimaphila)one part.
Prickly Ash (Xanthoxylum)one-fourth part.
Coriander Seeds.one-fourth part.

Make into a syrup as directed in the article on syrups. Dose, a teaspoonful or more after meals. This is a stimulating alterative and is most beneficial in sluggish conditions of the system, and especially serviceable where syphilis is in the body. Persons who are sensitive, or those with weak stomachs, should not use it. This preparation can be obtained at the drug stores.

Compound Sarsaparilla Syrup.

Sarsaparilla Root (Smilax)one-half pound.
Yellow Dock (Rumex Crispus) . . .one-fourth pound.
Yellow Parilla (Menispermum) . .two ounces.

Make into two quarts of syrup according to the direction in the article on syrups, and flavor with sassafras. Dose, two teaspoonfuls after each meal.

This preparation is decidedly tonic as an alterative, and is valuable in feeble conditions where the blood is deranged, as in anæmia. As a "spring medicine" it is most excellent. There are a great many "compound sarsaparilla" preparations on the market, of varying strength and reliability, mostly of them being comparatively worthless.

ANAESTHESIA.

Means of Producing Insensibility.

Producing anæsthesia is the act of rendering a person unconscious or insensible to pain by the use of drugs, chiefly by the inhalation of volatile substances in the form of vapor, or of certain gases. Chloroform and ether are the agents chiefly employed for this purpose, and although the value of chloroform was not discovered until 1847, yet it is now universally acknowledged as the most powerful anæsthetic, although ether is more frequently resorted to as it is milder.

Chloroform is a dangerous article to administer by inhalation, and should never be given except by an expert who is able to recognize the signs of danger and take prompt measures to overcome them. As a well known surgeon once said, "Whoever is rendered unconscious by chloroform hangs over his own grave until full consciousness is restored."

The administration of chloroform should be made only when absolutely necessary, and should be conducted as follows: Have the patient in a well ventilated room, and loosen well all clothing about the body, especially about the neck and chest. Fold a towel into the shape of a funnel and drop one drachm of chloroform in the inside of the top of the funnel and invert it over the mouth and nostrils, lifting up one side so as to allow as much pure air to enter as possible without allowing the chloroform vapor to escape. It may possibly require two, three or even four drachms to render the patient completely unconscious and insensible to pain. Sometimes a few drops of chloroform on a handkerchief will be sufficient to secure unconsciousness. But it is not advisable to use chloroform when ether may be obtained and answer the purpose.

Ether is far safer than chloroform in the production of anæsthesia, and, except in very rare cases, will answer every purpose just as well, and it will not leave such bad after-effects as follow chloroform administration. Ether, also, and more properly known as sulphuric ether, is often used internally and otherwise to overcome spasms, cramps, hysterics, asthma, etc., and as an outward application for headache, toothache and similar affections, but its employment in such cases is inadvisable.

To produce anæsthesia, ether should be used in the same way as chloroform, only probably an ounce or more may be required to accomplish the same result, and complete anæsthesia will be slower. The odor of ether is very disagreeable and often causes nausea and vomiting. Only skillful hands should administer it except in cases of extreme necessity.

Local Anaesthesia.—This is accomplished by numbing the parts chiefly by the rapid evaporation of a volatile liquid applied by means of a spray. Ether is most commonly used for this purpose. It is well to have the patient in a draft of air, so as to facilitate evaporation and to avoid inhalation of fumes. The parts may be completely benumbed so as to render painless minor surgical operations. No danger attends such local anaesthesia.

Sometimes it may be necessary to produce local numbness when ether cannot be obtained; snow and salt or ice and salt will partially freeze the parts. This method is clumsy and should be employed only in cases of necessity.

Chloride of Ethyl, contained in bulbs ready for use without an atomizer, may be obtained of most druggists. It is very convenient for producing local anaesthesia, and is far more pleasant and more rapidly effective than ether. Directions accompany the article.

Cocaine.—Of late years cocaine solutions have been used extensively in minor surgical operations, such as the removal of superficial tumors, eye operations, inserting of surgical stitches, etc. It is often used in the painless extraction of teeth, and even for ordinary toothache, but such a use of it is not recommended. The muriate of cocaine is used, dissolved in a saturated solution of boracic acid. A four per cent solution is a very strong solution; or three grains to three and a half ounces of water. One or two drops of this solution injected by a hypodermic syringe beneath the skin for operations, or into the gums for extraction of teeth, will suffice. When applied directly to the surface a drachm or more of a two per cent solution is often employed. Cocaine is a highly dangerous article and uncertain in its after effects, being especially treacherous when employed on young or very old persons, or persons having valvular disease or weakness of the heart. The frequent use of cocaine has brought many into the habit of using the drug for pleasurable sensations, a habit more dangerous than the opium habit.

ANODYNES.**Formulas for Relieving Pain.**

These preparations are calculated to relieve pain promptly without resorting to harmful narcotics.

For Children's Colic.

Take Fluid Extract Pleurisy Root . . . two drachms.
Fluid Extract Wild Yam one drachm.
Essence Cinnamon ten drops.
Essence Anise ten drops.
Simple Syrup four ounces.

Mix. Dose, one-half teaspoonful in water, to be repeated in fifteen minutes.

Injection for Infant's Colic.

Take Catnip Herb one ounce.
Pleurisy Root one ounce.

Steep in a pint of boiling water and use about two ounces at a time of the strained infusion, luke warm. Such an injection, if retained by compression, will afford relief more quickly and efficiently than remedies given to the stomach.

ANTISEPTICS.**Applications for Preventing Decomposition.**

These are substances or preparations which prevent putrefaction or decay; or, according to the germ theory, destroy microbes and germs of disease.

Dry Surgical Dressing.

Take Tincture of Calendula one ounce.
Pulverized Boracic Acid one ounce.
Pulverized Goldenseal eight ounces.

Rub the calendula and boracic acid thoroughly in a mortar and heat gently, and then rub with the goldenseal to a smooth powder. This preparation will

be found both healing and antiseptic. It may be dusted directly into open cuts or upon sores, and is not at all irritating.

Antiseptic Throat Spray.

Take Boracic Acid.....*twenty grains.*
Fluid Goldenseal.....*two drachms.*
Tincture of Myrrh.....*one drachm.*
Glycerine.....*one-half ounce.*
Distilled Water.....*seven ounces.*

Mix. This is excellent for pharyngitis and throat troubles generally, used as a spray or gargle.

Compound Tincture of Myrrh.—“No. 6.”

Take Pulverized Myrrh.....*two ounces.*
Red Pepper (Capsicum).....*half an ounce.*
Alcohol.....*one quart.*

Mix and allow the preparation to stand for a week, when the tincture will be ready for use after decantation.

There is no antiseptic to equal this preparation. A few drops in a glass of water make a milky looking fluid which may be used as a spray in malignant diphtheria and other putrefactive diseases, especially when mixed with an equal quantity of fluid extract of goldenseal. As an application for gangrene or to prevent mortification there is nothing that can compare with undiluted compound tincture of myrrh. Its internal use as a powerful stimulant and as an arrester of putrefaction has been elsewhere mentioned. We are indebted to Samuel Thomson, a medical genius of the early part of the century, for this combination and the methods of employing it.

CATHARTICS AND APERIENTS.

Means of Producing Movements of the Bowels.

These are agents which produce evacuations of the bowels, and they vary greatly in character. Some directly excite the muscular coats of the bowels, like

rhubarb; others exert their influence on some special portion of the bowels; some increase the amount and flow of bile, as leptandra, and bitter root and wahoo; while others, like rhubarb, act upon the upper portions of the bowels. Manifestly it is best usually to combine cathartics so as to cause action all along the intestinal tract. Some agents, such as salts, are so irritating to the bowels that they cause large and watery stools to occur shortly after administration. *Aperients* and *Laxatives* are agents which act mildly and slowly in producing evacuations of the bowels. *Purgatives* are agents which act briskly, and are useful in emergencies. *Hydragogues* produce watery discharges. *Chologogues* cause movements of the bowels by increasing the flow of bile.

Senna and Salts. (Purgative.)

Take Senna leaves.....*two drachms.*
Epsom Salts.....*one-half ounce.*
Manna.....*one-half ounce.*
Fennel seeds.....*half a drachm.*

Mix and make an infusion with a large teacupful of boiling water and strain and sweeten. One half of the amount is an average dose and should produce an evacuation of the bowels in four hours; if not, the other half cupful should be taken.

Castor Oil Mixture. (Purgative.)

Take Castor Oil.....*one-half ounce.*
Gum Arabic.....*one drachm.*
Essence of Ginger.....*ten drops.*
Peppermint Water.....*one-half ounce.*

Rub the oil and the powdered gum Arabic well together and then pour into it the peppermint and ginger heated, stirring constantly, and drink while hot and well mixed. In obstinate cases double the quantity may be taken at a single dose.

Seidlitz Powders. (Aperient.)

Take Tartrate of Soda and Potash...*two drachms.*
Bi-carbonate of Soda.....*forty grains.*

These may be dissolved in one-third of a glass of water and constitute Solution No. 1.

Take powdered tartaric acid twenty-five grains. Dissolve this in another one-third cup of water to constitute Solution No. 2.

Mix the two solutions and drink while effervescence continues. This is a mild and very pleasant aperient and may be used in sensitive cases.

Rhubarb and Magnesia. (Aperient.)

Take Calcined Magnesia.....one drachm.
Powdered Rhubarb.....three grains.
Powdered Sugar.....two drachms.
Essence of Peppermint.....twenty drops.
Water.....three ounces.

Mix and stir well and place in a wide-mouthed bottle. Dose. one teaspoonful every three hours for children troubled with constipation and sour stomach.

Cascara Compound. (Laxative.)

Take Fluid Extract of Cascara....one-half ounce.
Fluid Extract of Wahoo....one ounce.
Fluid Extract of Licorice....two drachms.
Essence of Ginger.....one drachm.
Syrup of Butternutsix ounces.

Mix. Dose. one teaspoonful night and morning. This is a most valuable preparation for chronic constipation, and will not only cause regular movements of the bowels, but will, by its tonic action, completely cure the difficulty when due to weakness of the bowels.

Anti-bilious Physic. (Purgative.)

Take Sennatwo ounces.
Jalap.....one ounce.
Ginger.....one drachm.
Cream of Tartar.....twenty grains.

Mix, having all the articles pulverized. Dose, one teaspoonful of the powder in water, sweetened. It should act in four hours, but should be repeated should it fail to do so. If the rectum is loaded, an injection

of warm water may be given, and the whole intestinal tract thus quickly emptied.

Fruit Laxatives. (Confections.)

Take Figs.....*four ounces.*
Dates (stoned).....*two ounces.*
Raisins (stoned).....*two ounces.*
Leptandrin.....*two drachms.*
Aromatic Cascara.....*one ounce.*
Extract of Licorice.....*one-half ounce.*
Pulverized Sweet Chocolate...*one ounce.*

Chop the raisins, figs and dates very fine and add the other ingredients, stirring all thoroughly until it is a homogeneous mass, when it may be rolled out on a board covered with confectioner's sugar or sugar of milk and cut into twenty-five lozenges. These may be dusted in confectioner's sugar. Dose, one or two at bed-time. This is an elegant preparation, and will be taken as a confection by children.

Cathartic Capsules. (Chologogue.)

Take Leptandrin.....*twenty grains.*
Apocynin.....*ten grains.*
Euonymin.....*ten grains.*

Mix, and fill into ten capsules. Dose, one at bed-time. The bowels should move in ten hours.

COMPOSITION.

A Valuable and Noted Formula.

The following formula was devised by Samuel Thomson many years ago, and has become a famous preparation, and may be obtained all ready compounded in many drug stores:

Take Bayberry Bark.....*one pound.*
Hemlock Bark.....*one-half pound.*
Ginger.....*one-half pound.*
Cayenne (Capsicum).....*one ounce.*
Cloves.....*one ounce.*

Mix thoroughly. All the ingredients should be fresh and pulverized.

This composition is frequently referred to throughout this volume. It is a powerful stimulant and is calculated to arouse and to sustain the circulation. Useful in colds, chills, collapse, flooding, snake bites and blood poisoning and various states of depression. It is best given in an infusion, a tablespoonful to a pint of boiling water; dose, two tablespoonfuls as needed, or as much as a cupful at a time in desperate cases. As a stimulating sweating preparation pleurisy root should be substituted for the hemlock.

DIAPHORETICS.

Sweating Agents.

There are many remedies which stimulate the circulation and open out the pores of the skin so as to produce perspiration. Such an action is especially desirable in the early stages of eruptive diseases and in the fever stage of malarial and many other difficulties.

The following will be found a pleasant and most efficient diaphoretic.

<i>Pleurisy Root</i>	<i>two ounces.</i>
<i>Ginger</i>	<i>one-half ounce.</i>
<i>Thyme</i>	<i>one-half ounce.</i>
<i>Sweet Majoram</i>	<i>one-half ounce.</i>

Mix well the pulverized articles and use as an infusion, made by steeping a tablespoonful of the mixture in a pint of boiling water; dose, half a teacupful every forty-five minutes. A few grains of citric acid, or lemon juice and grated nutmeg, may be added if desired.

EMETICS.

Means of Provoking Vomiting.

The usual use of emetics is to empty the stomach of offending materials in the quickest manner. The of-

fending materials may be poisonous substances taken into the system as such, or substances rendered poisonous by decomposition or fermentation after entering the stomach; or the offending materials may be accumulations of mucus interfering with digestion, or foreign bodies swallowed by accident.

A more extended use of emetics will be found beneficial in the general treatment of disease, to start the secretions and to empty the gall-bladder and the ducts of the liver and cleanse the various other glands.

Disease always implies interference with free performance of functions on account of obstructions in the system, and an emetic, if properly administered, will so act upon the various structures of the body as to favor the overcoming of these obstructions. In nearly all chronic diseases great benefit will be experienced by an occasional emetic; and in most acute affections an emetic at the start will often cut short the severity of the attack. It is an easy thing to overdo the employment of emetics; and in persons subject to hemorrhages they should not be used at all. In all cases where they are given the subsequent administration of drugs will be more effectual.

The philosophy of emesis or vomiting is very simple, and consists of the sudden contraction of the muscles of the stomach, chest and diaphragm in such a manner that the stomach is forcibly squeezed and diminished in size, resulting in the ejection of its contents through the gullet or œsophagus. The manner in which this may be accomplished varies according to the condition of the stomach. When that organ is extremely sensitive the least relaxant will prove nauseating and cause a contraction of the muscles as a reaction; thus, a little warm water, or boneset infusion, or simply lobelia tea, or salt and water will provoke vomiting in irritated conditions of the stomach.

On the other hand, depressed conditions of the stomach would not permit vomiting by such means; and when depressed by narcotics or other similar poisons, the administration of relaxants would not only fail to accomplish emesis, but would greatly increase the danger from poisoning by increasing the powers of absorption. Stimulants are needed in such cases

along with astringents, as mentioned under the article on poisons.

In diseased and sluggish conditions the aim must be to stimulate the structures into activity, to consolidate the mucus that it may be dislodged, and to relax the structures in order to dislodge the mucus and render the muscular fibres capable of suddenly contracting by reaction, and thus causing the act of vomiting.

Simple Emetic.—Make a strong infusion of composition (see formulas), using a large tablespoonful of the powder to a pint of boiling water; allow it to stand twenty minutes and then strain and sweeten. Also prepare an infusion of lobelia herb, a teaspoonful to a cupful of boiling water, and allow it to settle. If the patient is very sick he should lie in bed, though otherwise he may sit in a chair while taking an emetic. The temperature of the room should be comfortable, and at the same time plenty of fresh air should be provided. Administer the composition infusion in half-cupful doses every fifteen minutes, until the whole system feels thoroughly warm; four doses usually being sufficient; then, in five or ten minutes after the last dose of composition has been taken, administer the whole cupful of lobelia infusion, previously prepared and strained. This may provoke vomiting at once; but it is preferable that it should not do so, and the patient should endeavor to hinder immediate vomiting, for the longer it is delayed the more thoroughly the tissues will be relaxed and the more beneficial will be the results. If vomiting does not take place in ten minutes, then give again the composition infusion in one-fourth cupful doses every five minutes until vomiting does occur; and after each spell of vomiting give composition freely in order to give fluid to the stomach and thus avoid distressing retching.

Where there is sourness of the stomach it will be necessary to add a teaspoonful of cooking soda to the lobelia infusion. Or, if vomiting does not occur promptly, add the soda to the composition taken after the lobelia. Only the one dose of lobelia need be taken, as another quantity would simply increase the relaxation and so much longer delay vomiting.

Where there is apparently far too much relaxation and vomiting cannot be readily induced, it will be found advisable to give a drink of infusion of capsicum. Vomiting may possibly be delayed an hour or more and then occur suddenly upon exertion, or taking anything into the stomach.

Stimulating Emetic.—In various parts of this volume stimulating emetics have been advised. They are especially valuable in extremely sluggish conditions where the extremities are cold and the whole system appears to be relaxed.

Add to the composition a small amount of cayenne, and administer this infusion in quarter of a cupful doses every half hour for several hours, until the whole body is warm, even to the tips of the toes, and the pulse is strong, and then give the lobelia infusion and proceed as in a simple emetic. Never give the lobelia until the hands and feet are warm and the pulse strong. Such an emetic will leave a tonic impression on the system, especially if goldenseal should be given with the composition after administering the lobelia.

Gruel Emetic.—Some persons become somewhat weak during an emetic and need strengthening, especially if the emetic is given before breakfast, as is advisable where there is apparently a stomach well coated with mucus, as will be denoted by a furred and slimy tongue. In such cases the use of gruel will not only sustain the system, or rather overcome the feeling of faintness, but will greatly aid in loosening the tenacious mucus and help its ejection. Children are especially benefited by this form of emetic.

Prepare the composition infusion as for a simple emetic, and also prepare an infusion of raspberry leaves, an ounce to a pint of boiling water, strained after steeping. Besides these, make about a pint of thin gruel, salted and sweetened. Give half a cupful of the composition infusion and follow by half a cupful of gruel. In ten minutes give the raspberry infusion, and in another ten minutes give the composition and the gruel. Do this for an hour and then give

the lobelia infusion—a teaspoonful to a cup of boiling water. Follow the lobelia by the composition infusion as for a simple emetic. It is often surprising to see the great amount of tenacious mucus which will be thrown out of the stomach by such an emetic. This will give immediate relief, and will aid in the action of remedies administered thereafter.

Nervine Emetics.—Frequently there will be nervous conditions requiring an emetic on account of foul conditions of the stomach, and which require milder means of producing vomiting than are afforded by ordinary emetics. For such cases, instead of composition, use an infusion of equal parts of raspberry leaves, ginger and wild yam (*dioscorea*); and divide the lobelia into three doses, to be given ten minutes apart, the last dose mixed with the raspberry infusion.

Rectal Emetics.—Some persons cannot take emetics by the stomach at all when vomiting is needful. In such cases use, by injections to the bowels every twenty minutes, the raspberry infusion named for nervine emetics. Continue four hours and then give the lobelia by injection in very thin starch water. There will be but slight vomiting. Such emetics are not useful in cases of poisoning.

ENEMAS.

Injections to the Lower Bowels.

Enemas are often spoken of as clysters, and are of great value in the treatment of disease. Not only are they serviceable in evacuating the bowels, but they are important aids to medication, and are often resorted to as a means of furnishing nourishment when the stomach is unable to receive food, or when for any reason a person cannot eat.

Cathartic Enemas.—To evacuate the rectum, a pint of fluid is necessary for an adult. Luke-warm water may suffice, but it is also best to add to it some light stimulant, such as a tablespoonful of molasses or

sugar. A very weak ginger tea (a few grains of ginger to the pint) or a teaspoonful each of salt and sugar may be necessary. Soapy water is often prompt in adults, but is too harsh for children. Usually it is best for children to be given injections of sweetened catnip tea, as they frequently suffer from colic when constipated. Allow an injection to be retained for at least fifteen minutes, if possible, in order to soften the contents of the rectum. If an evacuation does not occur within an hour the enema should be repeated.

Relaxing Enemas.—When the body is feverish and tense relaxing injections will be found serviceable. These should be given in thin boiled starch made with infusions of the relaxants. In mild cases, especially with children, pleurisy root and boneset are useful. With adults lobelia infusion is most serviceable. As a means of relaxing the system to facilitate the reduction of fractures and dislocations, relaxing injections of lobelia cannot be equalled; and for convulsions they may be relied upon. Such injections should be very strong. A teaspoonful of powdered lobelia herb to half a cup of boiling water being an ordinary amount for one enema.

Stimulating Enemas.—These are prompt aids in depressed conditions, such as in collapse, shock, etc. Composition, ginger or even compound tincture of myrrh may be thus administered and repeated every hour until reaction sets in, which is usually accompanied by violent evacuations of the bowels.

Nervine Enemas.—In severe prostration, as in apoplexy, meningitis, lockjaw, etc., strong nervine injections should be employed. In such cases large doses of the powdered agents should be given in thin boiled starch, and they should be retained an hour, even if a tight compress against the anus be found necessary. Nervine injections should be repeated every three hours, half a large teacupful being sufficient at one time. Any medicament may be given by

injection when it is impossible for it to be administered to the stomach.

Warm Water Enemas.—At times it is a good plan to take daily injections of warm water in very large quantities. Persons who have long suffered from biliousness and sluggishness brought about by neglect, over-eating, improper diet, etc., may feel themselves loaded with accumulations throughout the system and realize the necessity of taking a thorough course of cleansing.

Procure a four-quart fountain syringe and take the injections while in bed, and remain there until the operation is over. First cleanse the rectum by about a half pint of water, and after the rectum has been evacuated allow fully four quarts of luke-warm water to enter the bowels. The buttocks being elevated will facilitate the operation. Retain the water for at least an hour. At first so large an injection will feel uncomfortable, but by being repeated daily one will soon become accustomed to the amount. These injections are marvelous aids to eliminating impurities from the system, cleansing the whole body, improving the appetite and digestion, clearing the skin, and altogether rejuvenating the physical being.

Astringent Enemas.—In diarrhœa, dysentery, etc., it will often be found serviceable to administer astringent and tonic injections. In mild cases witch hazel or cherry bark infusions will answer the purpose, but in severe cases bayberry bark or gum kino in infusion will be best.

Nourishing Enemas.—In cancer of the stomach, wasting diseases, unconsciousness and many other conditions, it becomes necessary to administer food by the rectum, where it will be absorbed. First cleanse the rectum by warm water and then give the nourishment; a half cupful at a time will be sufficient, repeated every three hours if possible. Thin barley water with beaten white of egg, beef broth, malted milk and similar articles without sugar or salt are suitable. Rectal nourishment must be concentrated

and retained as long as possible, it being best for all of it to be absorbed.

ESSENCES.

Alcoholic Solutions of Oils.

A solution of an essential or aromatic oil in pure alcohol is termed an essence or a spirit of that substance. Sassafras, dill, fennel, wintergreen, rosemary, peppermint and many other agents may be obtained in the form of essence. In colic these diffusive essences may be given to great advantage—a few drops given on sugar or in hot water. One ounce of oil in nine ounces of alcohol will constitute the average essence. In making pills it is customary to add to the mass some essence of peppermint to disguise the taste and to prevent griping. An essence must not be confounded with a tincture (which see).

The essence of wintergreen requires but half the average amount of alcohol in its preparation.

EXTRACTS.

Fluid and Solid Extracts.

These are convenient remedial preparations, made by macerating the crude drugs in water and alcohol containing a small quantity of glycerine, and then evaporating to a degree that will cause one pound of the fluid extract to represent one pound of the crude drug in medicinal strength. Nearly all vegetable remedies may be obtained in the fluid extract form; and when they are manufactured by first class drug firms they may be depended upon. Most fluid extracts become cloudy and cause a sediment when added to water.

Solid Extracts of remedies are obtained by long steeping the crude drugs in hot water or in alcohol and cold water, and then evaporating in porcelain dishes until of solid consistence. Solid extracts are chiefly used in making pills.

INFUSIONS.

Hot Water Extracts of Remedies.

One of the simplest and most effective methods of administering drugs consists in extracting their virtues by warm or hot water. Coarsely ground articles are best for infusions, as they may be readily strained, but the pulverized drugs can be used as well.

As a rule one ounce of the drug should be the amount necessary to a pint of boiling water, and after prepared, the infusion should be allowed to steep twenty minutes or longer. Bitter herbs do not require so large a quantity to the pint, and only a few grains of capsicum will suffice.

Aromatic drugs and those containing tannin or volatile oils are injured by pouring boiling water upon them, and should therefore be treated with very warm water instead, and be allowed to steep over half an hour; of these may be mentioned elecampane, witch hazel, bayberry, wild cherry, peach leaves, catnip, black cohosh, etc.

LINIMENTS.

Outward Alcoholic Compounds.

These are useful applications for the quick relief of pain, or as aids in causing an outward circulation of blood, or in relieving local abnormal conditions of the muscles or nerves. Liniments are usually prepared by dissolving oils in alcohol; or the tinctures may be used in place of the oils.

The following has been frequently mentioned throughout this volume as a

Stimulating Liniment.

Take Oil of Origanum.....two drachms.
Oil of Sassafras.....two drachms.
Oil of Rosemary.....two drachms.
Tincture of Capsicum.....one ounce.
Alcohol.....one pint.

Mix and add half a drachm of gum camphor, to be dissolved. This is an excellent liniment for use

wherever there are inward inflammations, as in sciatica, peritonitis, inflammation of the bowels, etc.

Nerve Liniment.

Take Tincture of Lobelia three ounces.
Tincture of Black Cohosh two ounces.
Tincture of Calendula two ounces.
Tincture of Capsicum one-half ounce.
Alcohol one pint.

Mix. This liniment will be found very useful in treating sprains, muscular rheumatism, bruises, etc.

Rheumatic Liniment.

Tincture of Black Cohosh two ounces.
Tincture Capsicum one-half ounce.
Tincture Lobelia two ounces.
Fluid Extract Mullein two ounces.
Tincture Prickly Ash one ounce.
Alcohol one pint.

Mix. This will be found a very thorough liniment in rheumatic cases, especially in muscular rheumatism and where there is swelling of the joints.

OINTMENTS.

Soothing and Healing Applications.

For healing and soothing sores, ulcers and various other superficial affections, ointments will be found very serviceable. They are usually prepared by mixing medicinal substances with lard, wax, spermaceti, vaseline, etc. Lard allows the ready absorption of medicines, while wax and spermaceti give firmness to the mass. Vaseline is a very convenient base for ointments, as it is of proper consistence and does not become rancid, while lard is very readily made rancid and irritating, but vaseline does not promote the absorption of remedial agents. Mutton tallow mixed with a suitable amount of olive oil or cotton-seed oil,

with a little glycerine, is preferable to either lard or vaseline.

Cold Cream.

Melt together Oil of Almondstwo ounces.
Spermacetihalf an ounce.
White Waxone drachm.

After being thoroughly melted and while cooling, stir into it two ounces of rose water slightly warmed. Stir briskly until cooled. This is a well known and excellent preparation for chapped hands, sore lips, etc. Another formula is:

Almond Oilfive ounces.
Smermacetitwo ounces.
White Waxtwo ounces.

Melt these together at a low heat and while they are cooling stir into the mixture the following, previously prepared:

Boraxone drachm.
Glycerinehalf an ounce.
Rose Waterthree ounces.

Heat to near the boiling point, and when cool add a few drops of attar of roses.

Oxide of Zinc Ointment.

Rub together Oxide of Zinc (blende), half an ounce.
Lard (fresh)three ounces.

This is a most excellent application as a drying agent for burns and scalds, blisters, chafed skin, etc. It is necessary that the application be frequently changed, every twelve hours at least, and the parts thoroughly cleansed with warm water and Castile soap; otherwise the lard will become rancid by the heat of the body and form a poisonous and irritating compound of zinc. Vaseline is preferable to lard in this preparation, as it does not become rancid.

Tar Ointment.

Take Pitch Tar.....one ounce.

Mutton Suet.....one ounce.

Mix and melt together, stirring thoroughly until cold. This is used for scald head, ring-worm, piles and various affections.

PILLS.

Concentrated Doses of Medicines.

These are convenient for the administration of some kinds of drugs where slow action is desirable. Most generally cathartic preparations are administered in pill form, and when concentrations are used, great strength may be contained in a very small pill. Nearly all pills on the market are coated with sugar or gelatine by machinery, but pills may be made by hand. Solid extracts are used in pill-making, and as a rule some one extract is used as a base and other ingredients are added. There are thousands of kinds of pills manufactured under various names, mostly for cathartic purposes, though some for tonic, or nervine or other uses. Never purchase pills without ascertaining the formula and being certain that no poison is contained in them, as is most frequently the case. Asafoetida is most advantageously administered in pill form.

Compound Cathartic Pills.

Under this title pills are extensively sold which contain calomel, and are therefore not advisable. A good compound cathartic pill may be made as follows: Leptandrin, one drachm; apocynin and euonymin each one-half drachm; mix with solid extract of butternut into a stiff mass and roll into pills of about the size of a small pea; these should be rolled in powdered licorice root. Throughout this volume these pills are mentioned as LIVER PILLS.

Capsules are small gelatine receptacles for holding powdered drugs, chiefly the concentrations, and some-

times oils or bitter fluid extracts are administered in capsules. They have an advantage over sugar-coated pills in being more readily soluble. Capsules of all sizes may be obtained at comparatively nominal prices.

POULTICES.

Relaxing Outward Applications.

These are applications made to the surface for the purpose of softening the parts or medicating them, and often employed to favor the outward course of an internal abscess; sometimes used to direct the flow of blood outward from inflamed internal organs.

Poultices should be made with the aim of their holding warmth and moisture for a great length of time. Ground flax-seed, slippery elm bark (pulverized), corn meal, rolled oats and other similar articles make good poultices. They should be of such a consistence as will permit them to adjust themselves to surfaces over which they are placed, without being thin enough to run. It is always best to mix with the poultice a small quantity of glycerine or hot oil to hinder too quick drying or hardening. Bread is often employed for a poultice, but it does not retain heat so long as the flax seed. Yeast poultices are most excellent in sluggish conditions, old sores, gangrene, etc. They may be made by diluting ordinary yeast and adding flour to make a stiff batter, which should be allowed to rise. It is a common practice to medicate such poultices by diluting the yeast with strong infusions of desirable articles. For the class of sores mentioned pulverized myrrh, charcoal, ginger and golden-seal may be mixed with the prepared batter before it rises.

Where there is a too free discharge from ulcers and the tissues are relaxed, the poultices should contain such astringents as witch hazel or wild cherry bark, possibly pulverized bayberry bark. When there is great inflammation and tenseness of the parts, there is nothing that can equal pulverized lobelia, either the herb or the seed, sprinkled over the poultice. Where

there is great pain pulverized lady slipper is excellent with lobelia.

Fomentations are poultices made entirely of steeped herbs. They are excellent for relieving pain and acting promptly. Bruised smart weed fomentations over the abdomen are valuable in severe intestinal disorders and peritonitis, especially with mullein leaves. Catnip fomentations with lobelia herb will be found useful where there is great sensitiveness.

To apply a poultice properly it should be placed in a cloth sack—ordinary salt bags are convenient. The open end of a poultice bag should not be sewed, but folded several times to keep in the substance. Medicated poultices may be spread thickly over cloth and applied directly to the surface, or if an open sore, first covered with a piece of thin cheese cloth. In order to retain the heat as long as possible cover all with several thicknesses of flannel or with oiled silk. A poultice should never be allowed to become cold. It is best to have a second poultice ready to apply as soon as the first is removed. Never warm over a poultice once used, but always apply fresh ones.

SNUFFS.

For Offensive Catarrh.

Take Pulverized Goldenseal.....one ounce.
Pulverized Bayberry.....two drachms.
Pulverized Borax.....two drachms.

These may be thoroughly rubbed together and then sifted through silk bolting cloth. It should be used as ordinary snuff several times a day.

For Watery Catarrh.

Take Powdered Witch Hazel.....one ounce.
Powdered White Oak Bark...one-half ounce.
Powdered Wild Cherry Bark..one-half ounce.

Mix and sift through silk bolting cloth.

For Snuffles.

Take Powdered Lobelia.....one ounce.
Powdered Goldenseal.....one ounce.
Powdered Borax.....two drachms.

Mix and sift through silk bolting cloth. This preparation is most excellent where the nostrils become choked.

SYRUPS.

Pleasant Preparations of Remedies.

One of the most pleasant and convenient methods of administering remedial agents is in the syrup form, especially in those cases where slow action is desirable; for in most acute cases there are no forms of medication equal to infusions.

Simple Syrup.—This is the most frequently employed vehicle for the administration of fluid extracts, and may be prepared as follows: Pour a pint of boiling water upon a scant two pounds and a half of dry white sugar; place upon a hot stove and stir constantly until it starts to boil, when it should be instantly removed. This will make one quart of simple syrup, and it may have added to it essence of ginger or peppermint or orange flower by way of flavoring. One ounce of fluid extract added to three ounces of simple syrup will make an average medicinal syrup. Dose, one teaspoonful. Some agents are mild and double the average proportion may be used; while of other agents half the usual amount will be sufficient. Some stomachs revolt against every form of syrup, and yet cannot endure infusions, or it is inconvenient to prepare them in protracted cases. Under such circumstances a vehicle for fluid extracts may be prepared by adding two ounces of glycerine to twelve ounces of a rather thick mucilage of gum Arabic. Such a vehicle is well suited to persons suffering from diabetes or obesity. Alcohol may be used instead of glycerine as a preservative; but under all circum-

stances it should be remembered that alcohol does not in any way add to the remedial properties of a compound, but simply serves as a preservative or as an extractive.

Medicinal Syrups.—These are prepared as follows: To compound a half gallon of syrup use on an average one pound of coarsely ground drugs. Place these in a porcelain or very new tin kettle and cover them with water, eight parts, and alcohol, one part, and then tightly cover the kettle, and allow all to stand in a cool place for twenty-four hours; at the end of which time the drugs should be strained and again covered well with warm water, without alcohol, and allowed to stand in the closed kettle for four hours. Have a large funnel with an unbleached muslin sack prepared to fit within it. Snugly close the mouth of the funnel with cotton and then adjust the bag and fill in the drugs with the hot water and press down firmly. Allow the water to drip through rapidly three times, when it will be rather clear. Add enough cold water to this to make one quart and then let all drip through slowly, and add it to the alcohol and water first strained out and set aside. This should make about one quart and a pint. To this add four pounds of pure white sugar, slowly stirring over a low fire to dissolve the sugar and to drive off the alcohol used as an extractive. Then add four ounces of glycerine as a preservative. Smaller quantities of drugs are difficult to handle, and twice the quantity will be found more convenient, making a gallon of syrup, which will keep, any length of time, in ordinary, well stoppered bottles without sealing.

TINCTURES.

Alcoholic Extracts of Remedies.

For many purposes tinctures are very convenient, especially for outward applications. They are prepared by soaking six ounces of the ground drugs in a pint each of water and alcohol for ten days and then

filtering. When internally administered tinctures should be put into hot water to expel the alcohol which was necessary to extract the medicinal principles. Tincture of ginger is one of the most convenient of household remedies. Glycerine tinctures, without alcohol, may be prepared by macerating the drugs in one part of glycerine and four parts of water. These are not so efficacious for external use as are the alcoholic tinctures.

TONICS.

Preparations for Sustaining Strength.

Under the general name of tonics are classed those agents which exert an especial influence in building up the system when enfeebled by disease. Necessarily there are various classes of tonics, designated as stimulating, and relaxing and astringent, according to their peculiar characteristics manifested by the impressions they leave upon the system. Tonics are also divided according to the organs they especially influence—there may be tonics for the stomach, liver, bowels, nerves, etc.

Compound Gentian Syrup.

<i>Goldenseal (Hydrastis)</i>	four ounces.
<i>Balmony (Chelone)</i>	four ounces.
<i>Dwarf Elder (Aralia Hispid)</i>	four ounces.
<i>Gentian</i>	two ounces.
<i>Prickly Ash (Xanthoxylum)</i>	two ounces.
<i>Wahoo (Euonymus)</i>	two ounces.

These quantities will make two quarts of syrup according to the directions for making syrups. Dose, two tablespoonfuls after meals.

This is a most excellent tonic where the liver is at fault, and is therefore valuable in jaundice, biliousness, dropsy, agues and chronic difficulties peculiar to malarial regions. It is useful in depressed conditions, and may be used in atonic forms of dyspepsia.

Mother's Cordial.

<i>Squaw Vine (Mitchella)</i>	four parts.
<i>Blue Cohosh (Caulophyllum)</i>	one part.
<i>Cramp Bark (Viburnum Op.)</i>	one part.
<i>Unicorn Root (Helonias)</i>	one part.

These should be ground together and covered with equal parts of water and alcohol, which should be strained off after three days and the drugs then used to prepare a syrup (see Syrups); the first liquid is then added and all slowly evaporated to one quart, and four pounds of sugar and four ounces of glycerine added. Dose, two teaspoonfuls before meals.

This is a most excellent preparation for all forms of female weakness, and is of great service when used during pregnancy, relieving cramps and giving strength to the organs.

Spiced Bitters.

<i>White Poplar</i>	four ounces.
<i>Golden Seal (Hydrastis)</i>	one ounce.
<i>Prickly Ash (Xanthoxylum)</i>	one ounce.
<i>Balmoney (Chelone)</i>	one ounce.
<i>Cinnamon</i>	one ounce.
<i>Ginger</i>	one ounce.
<i>Cayenne (Capsicum)</i>	fifteen grains.

The pulverized form of these articles should be thoroughly mixed, and the preparation may be used as an infusion or given in capsules. For an infusion, use one teaspoonful to a cup of boiling water; dose, two tablespoonfuls after meals. Dose of the powder, eight grains. This tonic is useful in extremely sluggish conditions of the stomach, especially in malarial troubles. Sensitive persons cannot take it.

Bread of Life.

<i>Poplar Bark</i>	one ounce.
<i>Goldenseal (Hydrastis)</i>	one ounce.
<i>Cloves</i>	one ounce.
<i>Cinnamon</i>	one ounce.
<i>Anise Seeds</i>	one ounce.
<i>Ginger</i>	one ounce.

Mix these articles in the pulverized form with two pounds of confectioner's sugar and kneed into a stiff dough with a thick mucilage of slippery elm bark; roll into flat sheets about one-fourth of an inch thick and cut into small cakes about the size of a half dollar, and dry slowly and thoroughly. These cakes may be nibbled for dyspepsia, faintness of the stomach and indisposition. The preparation is suitable for languid conditions and is very pleasant and convenient to take.

Compound Scullcap Syrup.

Scullcap (Scutellaria).....one-half pound.
Blue Cohosh (Caulophyllum)....one-fourth pound.
Goldenseal (Hydrastis).....one-fourth pound.
Capsicumfifteen grains.

These articles should be ground together and made into two quarts of syrup, as directed under the article on syrups. Dose, two teaspoonfuls after meals and at bed-time. Or the ingredients may be mixed together in the pulverized form and used as an infusion of two teaspoonfuls to a large cupful of boiling water; dose, three tablespoonfuls.

This preparation will be found very valuable in nervous weakness, especially in such forms as involve the heart, or in wakefulness, delirium tremens, etc.

Wine of Camomile.

Camomile Flowers (Anthemis).....four ounces.
Blue Cohosh (Caulophyllum).....two ounces.
Motherwort (Leonurus).....two ounces.
Orange Peel.....one-half ounce.
Coriander Seedsone-half ounce.
Cinnamonone-half ounce.
 Gingerone-half ounce.

Grind these articles together and macerate in a quart of good sherry wine for two weeks, strain and add one pound of granulated sugar. Dose, a tablespoonful before meals.

This will be found a very pleasant and efficient tonic in languid conditions, especially of females. If the wine is objectionable the articles may be ground together and used as an infusion, a teaspoonful to a cup of boiling water. Dose, half a teacupful.

Colombo Compound.

Take of Colombo.....one-half ounce.
Gingerone-half ounce.
Goldensealone-half ounce
Sennatwo drachms.

Mix and grind together, and use as an infusion, a teaspoonful to a cup of boiling water, to be strained and taken in three doses, one after each meal. This is an excellent stomach tonic where there is constipation.

Compound Cinchona.

Tincture of Cinchonathree ounces.
Tincture of Valeriantwo ounces.
Peppermint Water.....eight ounces.

Mix. Take a tablespoonful between meals, and night and morning for weakness and nervous debility.

Intestinal Tonic.

Tartrate of Iron and Potassa ...one-half ounce.
Sulphate of Hydrastia.....one-half drachm.
Citric Acid.....three drachms.

Dissolve in seven ounces of water and add one ounce of glycerine. Dose, a teaspoonful after meals. This is a most excellent tonic for intestinal indigestion accompanied by rumblings of the bowels. It will improve the appetite and prove very acceptable to a weak stomach. To be kept in a cool place.

When there is anæmia, characterized by great paleness, and the food taken is not assimilated, although

the appetite is fair, and there is a lack of tone, the following may be given in capsules after meals:

Tartrate of Iron and Potassatwo grains.
Sulphate of Hydrastiaone grain.
Capsicumone-half grain.

Syrup of Hypophosphites.

The following preparation may be obtained at the drug stores, and is of value in wasting diseases. It has been extensively used in consumption:

Hypophosphite of Limesix drachms.
Hypophosphite of Sodatwo drachms.
Hypophosphite of Potashtwo drachms.

Dissolve in hot water, ten ounces; strain and dissolve in this fourteen ounces of sugar; again strain and add half an ounce of water of orange flowers. Dose, a teaspoonful after meals.

To this preparation many of the stronger tonics may be added, such as gentian or goldenseal in the form of fluid extract.

In purchasing syrup of the hypophosphites it is important to ascertain that such poisons as strychnine and arsenic are not contained in it as is very frequently the case.

VERMIFUGES.

Tape Worm Expeller.

No. 1. Take fresh pomegranate root bark, one quarter pound; upon this pour two pints of boiling water and boil all very slowly till evaporated to one pint.

No. 2. Take four ounces of pumpkin seeds and bruise them to as fine a pulp as possible in a mortar, and add one pint of hot water and stir thoroughly.

Strain and mix both No. 1 and No. 2, and keep warm. This is called the decoction.

Mix well together in a small bottle one-half drachm of chloroform and one-half drachm of oil of male fern and rub well in a mortar with one drachm of sugar of milk and fill into nine large capsules.

Have the patient fast for twenty-four hours, eating only salt fish and drinking milk. In the morning after the fast day take a large dose of salts and senna (see formulas), and after the bowels have moved freely drink the decoction in four doses, twenty minutes apart, sucking half a lemon after each dose, to avoid nausea. Half an hour after the last dose of decoction is taken take three of the capsules and repeat the dose twice during the next hour. In half an hour after the last dose of capsules take an ounce of castor oil prepared as directed in the chapter on Remedies. If the castor oil cannot be taken use another dose of salts and senna. If there is a tape worm present it will soon be expelled, and should be received in a vessel nearly filled with warm water to prevent breaking the worm and consequent retraction of the head. Never give treatment for tape worm unless segments of the worm have been first previously passed.

Pin and Round Worms.

Take Carolina Pink Root.....one ounce.
American Wormseed.....one ounce.
Senna.....one ounce.
Balmonyone-half ounce.
Anise Seeds.....one drachm.

Mix and place in a porcelain vessel with one quart of boiling water and let it steep, well covered, for two hours. Strain and sweeten well. For a child, a dose is one-half cupful on an empty stomach, four times a day. Milk may be added.

Pin Worm Injection.

Hyposulphite of Soda.....one drachm.
Bi-carbonate of Sodaone drachm.
Weak Soapy Water.....two quarts.

After using an active cathartic, and the bowels being freely evacuated, take all of this amount at one time as an injection, using the fountain syringe and retaining it as long as possible. Satisfactory results will surely follow.

For Pin Worms.

Take Powdered Sulphur.....one drachm.
Powdered Borax.....one drachm.

Mix well and fill into twenty-five capsules. One to be inserted into the rectum each night and morning until no traces of pin worms can be found in the evacuations and all itching ceases.

For Round Worms.

Take Wormwood.....one ounce.
Rue.....one ounce.
Peach Leaves.....one ounce.

Mix and steep in a quart of hot water for an hour, strain and sweeten well. Dose for a child, one-half cupful four times a day on an empty stomach. This is an excellent vermifuge for children. It may be flavored with anise seeds, and milk may also be added to the infusion each time it is taken.

WATER APPLICATIONS.

The Wet Compress.

This form of applying water has long been in general use, and when judiciously employed will be found most efficient for the relief of pain and various disorders. An ordinary wet compress consists of several folds of clean cloth, such as a folded pillow-slip, or (if extensive) a folded sheet, dipped into water and applied directly to the skin at the seat of disturbance, and then covered with folds of woolen cloth, such as a folded blanket, so as to allow the compress to be heated by the body. Robust persons of vital temperament yield most readily to a cold compress; delicate

persons prefer it warm and feel most comfortable when it is applied hot. The feelings of the patient should decide the degree of temperature employed.

To make a compress comfortable see to it that there is not the slightest crease in any one of the folds, and make it of such a size as will be most perfectly adapted to the part of the body to which it is to be applied, and cover it in such a manner as to avoid uncomfortable "bunches."

The application of the compress is frequently a cure for deep-seated difficulties—the water penetrating the affected part and driving out, by displacement, abnormal accumulations. As the water thus applied actually enters the system, it is imperative that it should be absolutely pure. Distilled water is best to use, though spring water or well water, not hard, is excellent. Let it be clean and fresh and the best results will follow.

Hot Compresses.

These consist of squares of flannel soaked in very hot water, and applied as hot as can be borne, and frequently renewed. A water bottle or other receptacle may be filled with hot water and placed over the wet flannel after it is in position. It is surprising to notice how quickly deep-seated pain can be relieved by the application of hot water fomentations.

Hot compresses should be employed wherever there is congestion of the internal organs, as they equalize the circulation and divert the flow of blood outward by relaxing the superficial blood vessels. They are likewise serviceable in relieving deep-seated pain caused by pressure upon nerve trunks.

Hot fomentations are also applied over regions where abscesses are forming, causing them to discharge outwardly, as they soften the tissues over the confined suppurative liquid. But when abscesses have discharged and the healing process is going on, the hot fomentations should be discontinued, for the softening of the tissues under such conditions will favor the growth of proud flesh and delay perfect healing.

MISCELLANEOUS ARTICLES.

MANAGEMENT OF YOUNG CHILDREN.

Foods, Baths, Sleep, Exercise, Etc.

The bestowal of care and watchfulness upon children requires many acts of self-denial and of patience and labor; but the reward repays the parents tenfold. Neglect and improper management always leave their imprints as life-long reminders of criminal carelessness on the part of those whose duty it is to protect and train for the future those whom they have called into existence.

This article will deal with the best methods of attending to the wants of the little one after the first few days of its existence until it is capable of being reasoned with, so that it may aid in its own welfare.

Feeding.

The mother's milk is the most natural and suitable diet for a young babe, and if at all possible it should be wholly relied upon during the first six or nine months, or until the advent of teeth signifies that other food is required. Nursing not only benefits the child but benefits the mother as well. It is a natural process and cannot be substituted without risk of injury. A child fed artificially under the most favorable circumstances has a poorer chance of life than one fed naturally under the most unfavorable circumstances. But nursing should be regular if it is to be of the greatest benefit. Many a child with a healthy and over-anxious mother grows puny and sickly from

no other cause than over-feeding or too frequent or irregular feeding. During the first few weeks of its existence an infant should be nursed every two hours during the day and less frequently at night. It is an excellent plan to speedily accustom the child to sleep soundly at night without nursing at all, and one which is of great benefit to the mother. Some mothers offer the breast to their babes whenever they cry, regardless of time or frequency of nursing. Nothing more seriously interferes with infantile digestion than this foolish procedure. The cause for the crying will only be aggravated, and nothing gained but a few moment's lull. If an infant cries after being regularly nursed, the trouble arises from some other cause than hunger. As is probably well known, the mother should be careful in regard to her diet while nursing. Acids usually affect the milk so as to give the baby colic, and few women can partake of lemonade, cranberries or other tart articles during the first months of nursing. Tea is also often the cause of making infants restless at night. Similarly, instead of giving infants drugs directly, they may be affected by the mother taking the desired articles. A very simple means of breaking up a cold or overcoming restlessness in a babe is the eating of boiled onions by the mother. Also the bony system of a child may be strengthened by the mother eating abundantly of oatmeal, or its growth retarded by her eating too rich or insufficient food.

A child six months old will usually be able to eat a little bread and milk pressed through a colander, and even a little "cream of potato," made by boiling mashed potatoes in milk to a creamy consistence. Also at this time strained boiled oatmeal mixed with milk will be beneficial. Such articles are best given by the nursing bottle instead of the spoon. At eight or nine months of age egg-nog, without alcohol, and broths from lean meats are to be given. Thickened milk, sago, arrow root and prune juice are often relished by children of eight or ten months of age. But meat, no matter how finely minced, should not be given before the child is a year old, and even then only when the child is hearty and has a number of teeth.

In some instances the mother is absolutely unable to provide milk for her infant, and various circumstances may compel a child to be "raised by hand," or artificially fed. Then the question arises, what food is best to be used? When goat's milk is obtainable that is unquestionably the choice, for it most healthfully substitutes mother's milk, but when it cannot be obtained cow's milk is the next best thing, and the fresher the cow the better, though in using such milk, as much water as milk should be added for the first two months, and after that the quantity of water may be diminished. Always sweeten the milk with a little white sugar, or, better still, with a little sugar of milk, sometimes spoken of as lacticin. In warm weather it is best to scald the milk before using, and at all times it should be luke-warm or at body-heat before being given to the child. Should it sour on the stomach or should the bowels run off, a teaspoonful of lime water may be added to each nursing. All milk should be as fresh as possible, and should be kept in a cool place.

Another important item in infant feeding is cleanliness. Milk pans must be thoroughly scalded, and nursing bottles cleansed beyond possibility of any dirt or sour milk remaining in them. Patent nursing bottles are excellent, though usually difficult to cleanse, and where there is any likelihood of oversight on that score, an ordinary black rubber nipple fitted to a common flat bottle is best, though the nipple should not be large. An unusually large nipple, either on the mother's breast or on the bottle, is liable to give the child a protruding or sharply arched upper jaw. Sucking the thumbs will also cause such a condition. The knowledge of such facts may prevent unsightly deformities.

Many so-called infants' foods are on the market, and most of them are meritorious articles. The directions for their use accompany the packages of the preparations. But when such preparations are used the danger lies in the fact that directions are not always strictly carried out. Only enough should be prepared at one time to answer for a single nursing, and as this is troublesome, the temptation arises to

warm over what is left, and therein lies the danger. Otherwise the use of "Infant Foods" is most advisable in many instances.

Condensed milk is a most satisfactory article for infant feeding, and is to be preferred where artificial feeding is necessary, and goat's milk, or pure milk from one cow cannot be obtained. Always choose a brand of milk put up by a firm of well known good reputation. One part to fourteen of water is the right proportion for new born children, but this proportion may be altered to suit the age. There is always more danger in giving the milk too strong than in giving it too weak. When the brand of condensed milk used is unsweetened, a little sugar should be added, and when there is the least manifestation of indigestion a teaspoonful of lime water must also be added to each nursing.

It is a most excellent practice to accustom an infant to drink pure water (absolutely pure, but not cold). A week-old child may take only a teaspoonful at a time, and frequently, but always to its advantage. Often a little one may actually suffer from the want of a drink of water. When we consider that nearly every tissue of the body contains water, we can realize the necessity of furnishing it to the system, though, of course, milk itself is largely composed of water. Some persons give their infants coffee, tea or even lager beer, but intelligent beings will not be guilty of such gross outrages upon helpless babes. Such things will dwarf both body and mind.

At this point it may be well to mention the dangers attending the use by the mother of narcotics or alcoholic liquors during pregnancy or during nursing. It is a common thing for a young mother to suppose that the extra drain upon her system demands the use of ale or beer, or even whiskey toddy, and there are many physicians who will lend themselves to the encouragement of such a fallacious idea. The fact is, that a barrel of beer does not contain as much actual nourishment as half a loaf of bread, but a single glass of beer contains sufficient poison to influence the entire system. The small amount of alcohol taken in

such beverages will, of course, cause a slight feeling of exhilaration, but such a feeling is always followed by a corresponding amount of depression. And no matter how small the quantity of alcohol taken, and no matter under what name it may be incorporated, the action will always be the same in character. But a still greater evil results from the use of such beverages by the pregnant or nursing women. The taste for alcohol may thus be fastened upon a child which will in after years be its curse, and upon the mother must then fall the guilt and anguish of bringing her own gray hairs in sorow to the grave.

Of artificial food or diluted milk a new-born child should consume two or three ounces at a time every two hours, and in a short time should be able to use fully a gill (eight tablespoonfuls) at a meal. A child should not be awakened to receive its meal, as it will nurse just as well when asleep if hungry, but as soon as it is through nursing, the nipple should be taken from its mouth. No infant should be given starchy food until after it has a few teeth. Starch requires saliva to aid in its digestion, and this cannot be furnished in sufficient quantities by very young infants. The appearance of teeth indicates a readiness for the commencement of a more varied diet.

Weaning.

Weaning children need not be a difficult task if properly undertaken. First accustom the child to sleeping alone, and of taking no nurse during the night, and then allow some one else to take charge of it during the day, that is, if possible at home. Otherwise give the child whatever has been prepared for it, and do not offer it the breast. If the breast is given it on account of its crying, weaning will be difficult. A hearty and robust child with several teeth and accustomed to taking artificial food at nine months of age, may then be weaned, though most children should not be weaned before one year of age, and many not until fifteen months, and some even longer, rather than to be weaned in hot weather. Milk should be the chief diet until three years of age.

Bathing.

An infant cannot be healthy without frequent bathing, and this should be performed daily. For the first month the child should be only sponged, but always with luke-warm water; never hot or cold. Pure Castile soap may be used, though a little borax in the water is to be preferred, as it will avoid skin troubles and chafing. After the first month a babe may be immersed in water in a tub and allowed to splash for five or ten minutes, always making sure to wet the head first. Always wipe the child thoroughly with a soft towel, and dress at once after taking from the bath, having the clothes previously warmed and ready for being put on quickly.

Clothing.

Very young infants should wear a belly-band, made of one piece and without hems, or knitted out of zephyr, four to six inches wide. This band is indispensable at first, and for at least six months it will serve a useful purpose in supporting the muscles of the abdomen and chest, as well as sustaining the back. Next to the skin a short woolen shirt should be worn, short enough to keep from getting wet. In very hot weather the shirt may be dispensed with while the band is worn. A blanket is next worn in such a manner as to serve as a skirt, made of a piece of flannel thirty inches long and forty-five inches wide, attached to a piece of heavy muslin about four inches wide and half a yard long, by being gathered in to fit. This muslin band is placed about the baby's body well up under the arm-pits and fastened with safety pins. The flannel portions are folded about the child and the edges may be fastened by safety pins or buttons. A flannel and a cotton petticoat and an outside dress will complete the outfit, besides a sack for cold weather and the necessary diaper. Bird's-eye cotton makes the most serviceable diaper, although some prefer Canton flannel for night time and for winter. Diapers should never be used a second time without being first thoroughly washed. The habit of drying behind

the stoves diapers wet with urine is filthy and detrimental to health, and such diapers cannot but chafe the skin and give rise to much annoyance. Rubber diapers, when properly used, are very serviceable; they protect the clothing and avoid much annoyance caused by changing too many articles of dress. But rubber diapers must be washed with cold water and thoroughly dried each time they become wet.

Always apply an infant's clothing feet first. This allows the spine to be supported during the process, and affords less annoyance to the child. Be sure that all clothing is warmed and thoroughly dried before being used, and then dress the child as quickly as possible. Have articles fit snugly, but never tightly; use safety pins, buttons or tape strings. Do not keep a child too warm, but never allow it to become chilled.

The age at which children should be put in short clothes varies with the season. If the child is three months of age in the summer time the change may be made, but if that age is reached in the fall or winter, the change must be deferred until warm weather, even if the child should by that time reach nine months of age. But care must be taken that the first short clothes are not too short; they should reach below the feet until the child is a year old or commences to walk. Shoes of soft material should be worn with woolen socks or stockings. The wearing of a cap is wrong, except when the child is taken into the open air, and then, if the weather is cold, a thick veil must be worn over the face. Ordinary judgment dictates a proper cloak or outer covering.

Teething.

Some children have but very little difficulty while teething, or during the period of dentition, while others suffer extremely and not a few succumb to convulsions or other consequences of teething. As a rule teething commences about the seventh month, though some start as early as the third or fourth month, and others may not cut a tooth until after they have reached one year of age. As a rule long delay in cutting teeth is an indication of feeble constitution, and

possibly points to rickets (see article on Rickets). Usually the front and middle teeth of the lower jaw are first cut, and soon afterwards the corresponding teeth of the upper jaw. But the reverse of this may occur, or other teeth may be the first ones cut.

By the end of the third year a child should have cut twenty teeth in all, ten in each year; and by the sixth year, two more back teeth should make their appearance upon each jaw.

It is obvious that during the cutting of teeth there is much reflex irritability; causing many disorders of the stomach, bowels and nervous system and possibly convulsions. (See general articles on Teething and on Convulsions and Summer Complaint.) Should the gums be swollen and red over a tooth endeavoring to come through, a sharp lance should be used to make cross incisions over the coming tooth. This is a simple operation and will afford instant relief and possibly often head off threatened convulsions. The neutralizing cordial, diluted, is a most excellent remedy to use in relieving stomach and bowel disorders common to teething children.

Exercise.

All children need exercise, and it must be provided for them in some form or other in order to develop their muscular systems. Carrying an infant about the room is exercise which may be given it when but a few days old. Gently swinging it back and forth, or tossing it is also beneficial. being cautious at all times that no strain is put upon the back, as would happen were the child to be placed upright. Wheeling in a baby carriage with good springs is excellent. The age at which a child should be first taken out of doors, of course, varies with the season. But whenever the weather permits, a child should have daily out-door airings; they impart a health and vigor not otherwise obtainable. Do not allow a child to sit upright before the fourth month, and never hasten its being able to sit alone. It will accomplish that feat voluntarily as soon as it is able.

Kicking the limbs is infant exercise and should be

encouraged by removing restrictions caused by clothing. Placing a child upon a mattress with perfect freedom to crawl and kick and roll is a good plan. It must be remembered that the floor is usually cold and traversed by drafts, and for that reason infants should not be indiscriminately placed upon it. When children are old enough they should be allowed to play out doors as much as the weather will permit. Dress them in cheap clothes and let them dig in the earth and make mud pies unhampered, watching them that they may not sit upon cold or damp ground, or expose themselves to the sun's rays when these are dangerously hot. Ordinary exposure to sunshine is most healthful, and bleached hair and tanned skin are little to pay for the vigor thus obtained.

Pulse and Temperature.

A new-born infant's pulse is about 100 per minute or a little more; and the rate increases during the first two years rather than diminishes, and averages from 115 to 120 per minute; and after the second or third year the pulse rate diminishes and continues to do so until adult life. Stomach and febrile disturbance cause a rapid increase of the pulse rate. Often the pulse may reach 150 per minute or more without there being any serious difficulty. When the pulse is irregular it is always a bad sign.

An infant's temperature may rise to 103° , or even higher, under trifling disturbances; though, should it continue at such a degree any length of time, it would be an indication of probably a serious difficulty. Late in the evening the temperature of an infant naturally falls. A little after midnight the temperature is at its lowest and then begins to rise.

Signs of Sickness.

Waking children are always in motion, but when that motion is fretful and impatient there is trouble somewhere. Moaning and whining indicate distress. Drawing the limbs up toward the abdomen is characteristic of colic. Placing the hand to the ear denotes

earache. Throwing the head backward or rolling the eyeballs upward indicates spinal or brain trouble. Yellowness of the skin or whites of the eyes show an obstructed liver. Putting the fingers in the mouth means that the teeth are troublesome. An anxious countenance denotes internal suffering, possibly inflammation in the bowels. Great paleness or emaciation may denote an improper nourishment, usually a failure of assimilation caused by over-feeding and consequent indigestion. Twitchings and jerkings of the muscles often precede convulsions. The signs of good health are too well known to call for repetition.

The Breathing.

To observe the respirations of an infant or a child, it should be watched while asleep, as the least disturbance will vary the frequency. From two months to two years of age the respirations will average about thirty-five per minute, probably less during sleep, and more during motion. From two to six years of age they should average twenty-three per minute, and from six to twelve years, twenty-two per minute. A child under two years of age does not move the chest much during breathing, and the respirations are not uniformly regular. During sleep an infant's breathing should be soft and easy and regular. A struggle to let out the air from the lungs is always a bad sign, even if respiration is easy. Very rapid breathing indicates an inflamed condition of the lungs.

Discharges from the Bowels.

A young infant should have three or four evacuations from the bowels during each twenty-four hours; and to be natural in character they should be of thin (not watery) consistence, and vary in color from a greenish-yellow to an orange-yellow, and be of not very offensive odor. Should the evacuations be bright green and mingled with white curdy flakes, the stomach is deranged. Such discharges are common in thrush or sprue, and if continued are of grave import, indicating that the food is not being duly assim-

ilated. To correct such a condition, less and not more food is required, and that more diluted, as the stomach is over-burdened. Regularity of feeding is now of vital importance. Thrush or sprue must be appropriately treated as directed under the description of that disease.

Evacuations of a clay-like character indicate either that the stomach is sour or that the liver is at fault. In the former case there is apt to be vomiting, and lime water should be added to the milk, if artificial feeding is resorted to; otherwise a little lime water mixed with ordinary water should be given immediately after nursing. If the liver is at fault the mother should take some mild laxative. When the evacuations are of an acrid character the lime water should be used internally and the sore parts anointed with vaseline. Offensive and dark evacuations indicate diarrhœa and require the administration of two-drop doses of neutralizing cordial in water every three hours. As children grow older, the discharges become less frequent, and by four years of age should not be more than two a day, and possibly one a day will be consistent with good health.

Sleep.

There is nothing more important than a full amount of good sleep for an infant or child; for during the sleeping hours most of the growth of the child takes place. A babe should early be taught to sleep alone; and although a cradle is convenient it can be dispensed with to the comfort of both mother and child. It is always advisable to change the clothing of even a young infant for the night; it teaches a child regularity of habit, besides being healthful. If there is fretfulness and restlessness at night, and when it is not due to colic, a warm sponge bath should be given and the back softly rubbed. Many nervous infants thrive best by postponing the usual morning bath until bedtime, instead of giving two baths.

The amount of sleep required by an infant of five months or less is about twenty hours out of the twenty-four, though they seldom get all they require. At a

year old fifteen hours is not too much; and the hours of sleep may be gradually diminished until, at ten years of age, a child should be satisfied with ten hours. It is almost imperative that all young children should have a long nap early in the afternoon of each day.

Never allow an infant or a child to sleep in a draft, but that does not mean that children should be put to bed in close rooms. Ventilation is all important to health (see article on Ventilation). If the covers are not too heavy children are not liable to kick. But if they persist in kicking make sack-like gowns for them rather than permit them to sleep uncovered in cool weather.

ELECTRICITY.

Its Characteristics and Remedial Uses.

Electricity is a powerful agent which may at times be employed to great advantage in the treatment of disease. But electricity should not be used indiscriminately, for damage may often be caused by its improper application. It is a physical agent, just as cold and heat are physical agents. The proper application of heat, when required, is always beneficial, but used when not required, or applied imprudently, it is capable of inflicting serious injury. In the same manner electricity should be considered. To simply take hold of the handles of an electric battery and keep hold of them until the sensation becomes disagreeable is the height of folly, and so far from being beneficial it cannot fail to be absolutely harmful. In this chapter the peculiarities of the various currents of electricity and their effects upon the system under varied circumstances will be described. Having a knowledge of the characteristics of electricity and its relationships to the human system, the possessor of a home battery will be enabled to use it intelligently, and often most beneficially, and to avoid the failures made possible through ignorance.

Electricity cannot be described, as it is recognized only by its effects. But its effects are such as to be realized intelligently. Suffice it to say that by the action of electricity upon the human body there is cre-

ated a disturbance of particles, chiefly in the nervous system, and this disturbance of particles may be such as to aid in the removal of obstructions and in the proper performance of functions, and thus assist in overcoming disease.

For use in medicine, electricity is generated by what is known as an "electric battery." Electricity is the same, no matter how generated, but the methods by which it is conducted into the body may differ in character and degree. There are always two wires, or poles, attached to an electric battery, both of which must come in contact with the body before any effect is experienced. These two poles are termed the plus and minus poles. The plus is usually spoken of as the positive pole and the minus as the negative. Simply speaking, the current of electricity flows into the body by the positive wire and is carried away from the body by the negative, so that when both poles are held the current passes through the body and thus creates the disturbance which is beneficial.

It may be stated here that a current may be allowed to enter the body in a constant flow; or a current may be so regulated by the mechanism of a battery as to be rapidly interrupted in its flow, and thus enter the body interruptedly. These two methods of flow are termed Galvanic and Faradic; and are also spoken of under various other names, as follows:

Faradic currents are frequently termed interrupted or to-and-from currents. They are also sometimes called secondary, or induced, or inductive, or vibratory, or magneto-elective, or electro-magnetic. They received their name Faradic in honor of that great natural philosopher, Michael Faraday.

Galvanic currents were so called after Galvano, one of the early electricians. They are often referred to as voltaic, direct, primary, or constant currents; and not infrequently they are mentioned as continuous or uninterrupted currents.

Characteristics of Currents.

Galvanic currents of electricity are comparatively the stronger currents. They produce sensations of

stinging or burning; and powerful Galvanic currents are used to produce destruction of tissues, tumors, etc. When both the Faradic and Galvanic currents may be obtained it is preferable to employ the Galvanic current where the source of disease is deep-seated; as in chronic diseases of the spinal cord and nervous system, long continued paralysis, rheumatism and neuralgia, stoppage of the bowels, and interferences to the proper performance of functions through muscular weakness. The Faradic current may be used for all these difficulties, but its action will be slower. For destroying tumors, emptying cavities, etc., the Galvanic current is almost universally employed.

Faradic currents of electricity produce sensations as though many minute needles were pricking the flesh; and when strong there is a stinging of the skin. In every respect the Faradic is milder than the Galvanic, and can be endured much longer, and is far less liable to work injury in ignorant hands. By its rapid interruptions, almost inconceivably rapid, it causes the muscles to be alternately contracted and relaxed many thousands of times during a short application. This is equivalent to a mild massage or gentle exercise, and cannot fail to be beneficial as a tonic to weak parts, or as an aid to nutrition throughout the body.

The Faradic current should be used in the early forms of paralysis, in which cases there is power enough left in the muscles to respond to mild stimulation of this kind. In acute diseases of the brain and of the nervous system, it is the proper current to employ. In sluggishness of the bowels due to intestinal indigestion, this form of electricity is valuable. In most cases medical electricians employ the Faradic current first on persons unaccustomed to electrical sittings, and afterwards, if there is failure to secure results, the Galvanic current is resorted to. For home use the Faradic battery is most proper. Some batteries are constructed for either the Galvanic or Faradic current.

Positive and Negative Poles.

Every battery has two poles; to one is attached the wire conveying the positive current; and to the other

is attached the wire for the negative current. The handles attached to the extremities are termed the electrodes. And in speaking of using the positive or negative poles, the electrodes corresponding to them are meant. There are several methods of distinguishing the different poles, showing differences of effect. Should both poles be placed upon a blotter saturated with a solution of iodide of potassium, a brown stain will appear where the positive pole rests. Blue litmus paper will be turned red by the positive pole, and red litmus paper will be turned blue by the negative pole.

Upon taking both poles (electrodes) in the hands, the one holding the negative pole will be most perceptibly affected, and a tender spot will be rendered more painful by the negative than by the positive. The greatest electrical impression will always be experienced nearest the point where the negative pole is applied, and as a rule that pole should always be placed where there is the least tendency to sensitiveness, and the positive pole should be applied to the sensitive parts. But this rule cannot be rigidly adhered to as occasions may demand the negative pole to be purposely placed over a tender spot in order to break up adhesions, destroy tissues, etc. The negative pole will relax structures, and the positive will act as an astringent to check hemorrhages, to overcome congestions and ulcerations, etc.

Duration of Application.

Many persons fail to secure any benefit from the use of electricity on account of its abuse. Charlatans and ignorant pretenders, and often reputed scientific physicians are so anxious to impress their patients that they are receiving a full return for their money, that the sittings are prolonged far beyond the limits of beneficial application. It is not uncommon for persons to be "taking electricity" for an hour or longer. And at home, with a family battery in use, it is often said that "no physician's fees being paid, one can take all he wants, and if a little is good, a great deal is better." One might just as well say that if a cold sponge bath of five or ten minutes' duration is good,

an hour or more of soaking in a tub of ice cold water would be better.

Make it a rule to remember that ten minutes devoted to electrical application will usually be sufficient at any one time; five minutes are enough for sensitive persons, and even those who are accustomed to its use should never receive the current longer than for twenty minutes at a time. And these applications should not be daily, except in cases of long standing, or in obstinate cases, such as continued paralysis. A person who has not before been treated with electricity should not begin with sittings more frequent than every third or fourth day, and the intervals may be gradually diminished. But the character of the application must be considered in connection with the time devoted to it.

Some physicians would impress upon their patients the necessity of great regularity of electrical applications. But this is not at all important except as a matter of convenience, unless, of course, some special effect is to be produced. For instance, a mild Faradic current just before bedtime will prove very soothing to the nervous system of persons subject to sleeplessness. And short applications just after dinner will aid digestion in persons suffering from dyspepsia on account of weakness of the stomach. Many persons become so accustomed to electricity that applications must be discontinued for a week or more, and then be resumed in order to feel their effects.

It is necessary to recognize the indications announcing when electricity is beneficial and when it is not so. When the pulse grows more natural in volume and frequency, or when distress of any kind grows less, or when the body or brain feels soothed and strengthened after an application, then electricity is proving beneficial. But when the pulse is increased in frequency and becomes irritable, or when there is a sensation of pain or an increased distress, or when there is experienced a feeling of exhaustion or weariness after an application, then electricity is proving detrimental rather than beneficial, and should either be discontinued altogether, or decreased in strength or frequency. Other evidences of the improper use of electrical ap-

plications may be mentioned, as headache, dizziness, impaired eyesight, ringing in the ears, backache and profuse perspiration.

Method of Application.

Several terms are employed to denote the various methods of administering electricity. They convey ideas to guide the use of the agent in disease.

Central Galvanization.—This is not frequently employed, but is very effectual in many obscure difficulties, where it is impossible to ascertain just what organ or structures are principally involved. A moistened sponge fastened to the negative electrode is placed over the stomach, and then the positive electrode is slowly passed over the head and down the neck and spine. This method should be employed not longer than ten minutes at a time, and is useful in St. Vitus' dance, hysteria, hypochondria and similar nervous disorders.

General Faradization.—This method is employed when it is desired that the electricity should permeate the whole body. Either the patient may sit upon a copper plate attached to the negative electrode, or the copper plate may be placed beneath his feet. To the positive electrode is placed a moistened sponge, which may be gradually moved over the whole surface of the body. Such an application should not be continued longer than fifteen minutes, and not more frequently than once a week, unless there are manifestly urgent reasons for more frequent repetitions. This method of application may be found useful in general nervous weakness, loss of muscular power, atrophy, anæmia, etc. Fifteen minutes of a mild current in this way should be preferred to five or ten minutes of a stronger current.

Local Faradization.—In this method the poles are both used in the same locality, near one another, so as to bring to bear an influence upon some particular organ or substance. It is chiefly employed to relieve pain in neuralgias, rheumatism, tumors, etc., and in paralysis of special muscles.

Local Galvanization is applied in the same manner and for the same purposes as local Faradization, except the Galvanic instead of the Faradic current is used. In some instances, also, a strong current is used in local Galvanization to break up adhesions, destroy tumors, etc.

Intermediate Electrization.—Persons who are very sensitive to electricity may be pleasantly treated by the intermediate method. The patient will hold the negative electrode in his hand, while the physician or attendant will hold the positive pole in one hand, and with the other hand convey the electricity to the patient by moving the hand over various parts of the body.

Catephoresis.—The absorption of outward remedial applications may be greatly hastened by the aid of electricity. For instance, a liniment may be applied, and while the patient holds the negative pole in one hand, a moistened sponge fastened to the positive electrode may be placed over the place where the liniment or medicament has been applied.

Bipolar Electrization.—This consists in using both poles, side by side, separated by insulating material, in such a manner as to have the full force of both currents exerted at the same spot, as in treatment of the bladder, womb, rectum, urethra, nostrils, cavities, etc.

Static Electricity.—This method is termed Franklinization. An expensive apparatus, known as a Holtz machine (or its modification) is needed to generate the frictional electricity which is employed. The patient is insulated by standing or sitting upon glass.

LOVE.

Analysis of the Master Passion.

Among the gifts which Nature has bestowed upon man alone, to the exclusion of all other living creatures, is the power to love. And no one who has ever

experienced that passion, even in its mildest form, will deny that it is the most powerful influence of all the most potent agencies by which our life in this phase of existence is governed.

All hopes, all passions, all delights,
 Whatever stirs this mortal frame,
 Are but the ministers of Love,
 And feed his sacred flame.

Even the prosaic Lord Bacon, whose mind rarely occupied itself with any subject less engrossing than philosophy, has remarked that "no cord or cable can draw so forcibly, or bind so fast, as love can do with only a single thread."

The gentle poet laureate of England and author of "In Memoriam," regards a life as absolutely lost in which love has formed no share, for, he asserts that

" 'Tis better to have loved and lost
 Than never to have loved at all;"

and Thackeray only repeats the same thought when he says: "It is best to love wisely. no doubt, but to love foolishly is better than not to be able to love at all."

Human love consists of two parts—the desire for procreation, which we share with the world beneath us, and that blending of two natures into a perfect whole which constitutes the love that is distinctly human, and utterly unknown to the lower animals. Both are necessary to constitute a perfect human love. Without the procreating instinct, or the maternal principle, love is mere affection, and does not rise to the loftiness or importance of a passion.

Dealing first with the procreative instinct we learn from biology that falling in love is really nothing more than the latest, highest and most involved exemplification in the human race of that almost universal selective process, which Mr. Darwin has enabled us to recognize throughout the whole long series of the animal kingdom. The butterfly that circles and eddies in his aerial dance around his observant mate is endeavor-

ing to charm her by the delicacy of his coloring and to overcome her coyness by the display of his vivacity. The peacock that struts about in imperial pride under the eyes of his admiring hens, is really contributing to the future strength and beauty of his race by collecting to himself a harem through whom he hands down to posterity the valuable qualities that were a source of fascination in his own person. Just so it is with man. We cannot fall in love with everybody. Some of us will admire one person, some another. As Grant Allen has pointed out in an able article: "This instinctive and deep-seated differential feeling of preference for some one person of the other sex, above all others, we may regard as the outcome of complementary features, mental, moral and physical in the two persons concerned; and experience shows us that in nine cases out of ten it is a reciprocal affection."

Spenser declares that

"Such is the power of that sweet passion
That it all sordid baseness doth expel."

By love's influence all baser passions are subdued, the attacks of ill humor are resisted, bad habits are corrected and vice torn from its throne. By love's power the bitter cup of affliction is softened, all the miseries of life are alleviated and the sweetest flowers are plentifully strewn along the thorny ways of the world.

Man is alone in his consecration to one being of the opposite sex, and in devoting his life efforts to the rearing of one family. Birds mate afresh year by year and many varieties are polygamous. All quadrupeds, in their wild state, choose a fresh mate for each impulse of procreation, and the offspring of all are turned out to shift for themselves as soon as they are able.

Among the choicest gifts we receive from Nature is the capacity for enjoyment, the enjoyment of ourselves and of herself. Many kind attributes she bestows on us, but if we had not also this, the others would be a barren heritage. What value were there in meat or drink, in sunshine or repose, unless the physical man

had his regular cravings for them? Why do we shrink from discordant sounds, or ugly sights or odors, except that Nature has implanted in us a relish for her own matchless harmonies, her graces and her fragrance? In every faculty, bodily and mental, if we do not ourselves impair them, she has done her full part to make life worth living. And it will accordingly be seen that, as the supreme privilege of existence is to continue itself, to propagate the species "after its kind," she has made the exercise of this privilege, in all its stages, the supreme delight and comfort of the mental and physical being. Taking it at the first step to this temple of enjoyment, love must be regarded, notwithstanding its huge blunders and frequent tyrannies, as probably the most welcome and beneficent guest that knocks at the door of the human heart. Of course it may be used amiss, like every other gift from nature, but when it enters into pure hearts, unstained by any base purpose, we may accept the poet's verdict that

"There's nothing half so sweet in life
As love's young dream."

In order to taste the full sweetness, however, it is essential that it be used in the right spirit. What, then, are the qualifications or attributes necessary to its full enjoyment? Love comes to all, or with so few exceptions that it may fairly be described as universal. The very small minority who escape its clutches do not rise to the full dignity of human beings at all; they are not even perfect animals. They are a sort of material full stop; love and life and humanity, so far as they are concerned, end in themselves.

Love, then, comes to the majority of the human race, and, as a rule, it comes in youth—

"When the springs of life are fullest."

The young man or woman has gone along in the full enjoyment of life, when suddenly a huge coiled spring is loosed in his or her breast. The whole of the intellectual forces center on the attainment of one object. All other aims in life sink into insignificance beside this.

Is it any wonder in this condition of mind mistakes in choice are often made? The period of courtship, if entered in the spirit of true seekers for self-improvement, will give opportunity for correcting discrepancies in the nature of those who have decided to marry.

COURTSHIP.

Choosing Life Companions.

It is a most delightful period, this time when lovers are about deciding life will not be worth much unless the other shares it. It is an important period as well, for all inharmonies in thought and character must be made to blend.

In the choosing of a life companion all feelings aside from the intellectual should be kept dormant for the time being, and the necessary requisites for a perfect union looked for. For instance, a woman who aspires to purity and goodness should not be linked to a man in whom a love for purity and goodness is deficient. A man with social faculties largely developed should marry a woman who also cares for society. A man or woman having a desire for wealth or position should mate with one of similar taste. Otherwise discord would result.

In physical make-up the law of opposites should rule. The tall and the short, the fair and the dark, the plump and the slender should marry. Every young man and woman, or every uninformed person should take a course of reading on phrenology and the law of choice, before deciding on whom they will marry (provided that person's consent can be obtained).

Man and woman, in the plan of nature, are complements—

“ ‘As unto the bow the cord is,
So unto the man is woman.
Though she bends him, she obeys him,
Though she draws him, yet she follows.
Useless each without the other’ ”
Thus the youthful Hiawatha said within himself.”

The modern woman has had the word "obey" stricken from the marriage ceremony, having outgrown the idea of submission shared alike by Hiawatha and others equally primitive.

Having, however, consulted the law of mental and physical adaptation and selected a companion of suitable years, our young people begin courtship. What is it? A few evenings out of each week spent together intermingling the magnetic elements which make the very being together a dear delight. The hand clasp, the lover kisses all tend to convince one that

"There is nothing half so sweet in life
As love's young dream—"

The precarious economic outlook which at present confronts young people is a serious stumbling block. The young man whose salary is just enough to meet his own expenses will ponder long as to how he can make it answer for two. He may not have been prudent in the use of funds up to this time, but he has had no incentive to do so till now. He cannot save very much in the city, out of six, eight or ten dollars a week, but perseverance will enable him to accumulate enough to furnish a home nest in time; a place that will be a haven of refuge and rest from the storms of the active business world.

If the young woman also be earning a livelihood, perhaps she will hesitate before deciding to give up an independent career to begin home-making. Home-making will, in the end, win most women; women are dominated to such a great extent by their affections and emotions. Having decided to unite her life with a worthy young man she can add to the fund for making a common home, by little self-denials. A prominent writer says "successful love takes a load off our hearts and puts it upon our shoulders." In the courtship days the load will not rest heavy while the heart is light in expectation of the culmination of their cherished hopes.

Who should be happier than the young pair with a fair life opening before them like

"A rose with all its sweetest leaves yet folded,"

and all the glorious possibilities of mutual confidence and helpfulness and mutual love.

Too much stress cannot be laid upon the idea that information regarding the marriage relation is a necessity *before marriage*. To their great discredit be it said that most parents allow their children to grow up untrained in matters relating to sex, or give whatever information in such a way as to make that part of the body seem indecent. A morbid curiosity is aroused, just as would be regarding any other part of the body, if the true knowledge of its functions were smuggled away. Until purity of thought and knowledge on this question is engendered in youth we cannot hope for men and women to be much cleaner spiritually.

Nothing can make up for a lack of education in youth, but a help that will greatly assist is books. Young people should glean all possible information between the time they decide to marry and the date of marriage, selecting with care their reading. All books will not do, because all authors do not treat of marriage, except in its physiological sense, and there is so much more in true wedlock than the mere physiologic.

Another point for the consideration of lovers. The tide of passion sometimes will run high in these days of close association. All familiarities which would tend toward overstepping the bounds of prudence and propriety should be avoided. The consequences of transgression are such that no young person wishes to assume the load.

Be honest and sincere one with another. Truth should be the foundation of all dealings; especially in money matters. Food and clothes are more intimately connected with happiness than most lovers are inclined to think. A whole after life of uprightness may not be able to expunge the effect of a single misrepresentation before marriage. It would be foolish to jeopardize the happiness of future years for a little *effect* in the present.

It is safe to say ninety-nine young men out of every hundred will choose for a wife one whose character is without spot or blemish, and not consider the justice or the need of having the same personal test applied

to their own, as regards health, chastity and morality.

A young man may have been thrown into the filthy stream of impure social life by circumstances or ignorance; he may have gone on with the current without being befouled thereby, but that is hardly probable. Assuming, however, that he swims ashore having seen the folly of his former course, is he a fit associate for any pure young woman until he has lived in a state of mental quarantine for some time, in order to be sure he has escaped finally from the thralldom of sensuality?

Dr. Dio Lewis offers a plan for eradicating sensual thoughts which is worth the experiment. He says: "While striving to help young men into the habit of clean thinking, I have tried many expedients. With intelligent persons what I call the 'card plan' has often proven successful. That is, to write on a card a number of words, each suggesting a subject of interest or a familiar train of thought. When an impure notion obtrudes itself, the idea of danger which has been associated with it will arrest attention; the card is taken out, and a glance at it will help to shift the switch at once." A patient who had profited by this prescription of the doctor's said: "I cannot tell you how clean and manly I feel. I would not go back for a mine of gold. I believe that this expedient might help the worst victim of sexual filth into purity and manliness, if he would only try it with a good strong will."

One idea further for this period of courtship. The young man must make up his mind to try to preserve the depth and sweetness and delicacy of the attraction that brought them together, by treating his wife with the same consideration he gave his sweetheart. Many a young husband supposes that the nuptial ceremony gives him the fullest power over his wife. Nothing more disastrous to their future happiness from every possible point of view can be imagined. This is not an intentional wrong on the part of husbands—only lack of correct information, and that is the reason for bringing up the subject for consideration during courtship. Knowledge as to the way to live a pure married life is worth more before mistakes are made. "An ounce of prevention is worth a pound of cure."

Persons who would not be persuaded to enter a business career without a preparatory course, enter the matrimonial career blindfolded, having no guide but passion. The shipwrecks of so many barks of health and happiness can testify to the mistaken idea that ignorance is purity.

MARRIAGE.

Practical Truths Plainly Stated.

Ralph Waldo Emerson says, "We are not very much to blame for our bad marriages; we live amid hallucinations, and this especial trap is laid to trip up our feet with, and all are tripped up first or last. But the mighty mother, Nature, who has been so sly with us, as if she felt she owed us some indemnity, insinuates into the Pandora box of marriage some deep and serious benefits and some great joys."

Every one will agree that there is a vast difference between marriage as it is and marriage as it should be. A marriage properly entered into by chaste partners understanding the natural laws which should govern the conjugal relation, is probably the happiest condition upon earth.

But the divorce record, which almost keeps pace with the weddings, is a testimonial that few reach the ideal state. The ideal can never be reached so long as we are dominated by passion, or while the gratification of passion or the results attending gratification is the aim of the institution of marriage. Marriage is of the mental and spiritual as well as the physical, a blending of all three elements, for the uplifting of man and woman. It is called a lottery because reason and judgment are so seldom exercised in connection with sex attraction; hence the responsibilities should not be assumed in haste, lest never-ending unhappiness be brought upon two individuals.

Matrimony gives the opportunity and the occasion for the higher faculties of the mind to unfold, while a single life offers self as the chief object of consideration. The Buddhist says there can be no such thing as happiness until self is lost sight of.

There are many arguments used to prove marriage is a failure by those who either have made mistakes in choice, or who, by a violation of natural laws in the conjugal relation, have not tasted happiness. The fact still remains unshaken that it is the doorway through which the real life with all its blessings is attained. No argument is needed to prove it to be the natural condition of adult life, and that the best successes of life are reached through a harmonious marital union.

Among those living in "single blessedness" the strongest supporters are they who have not loved. They wonder what there is to induce anyone "to commit matrimony." From their standpoint the pros and cons are considered in a material vein, and the decision rendered accordingly. The batchelor says a wife divides his pleasures and doubles his sorrows; that the world is divided into two classes—those who are unmarried, but wish they were; and those who are married, but wish they were not.

It is true the unmarried have opportunities for learning not possible, unless under the very best financial condition, for the married. They may surround themselves with books and other means of study, and broaden their intellect until the world does them honor. There is the beautiful story of Faust who had spent a lifetime in delving into the mysteries of nature and found one lifetime was not enough to fathom them. Then he longed for a taste of human joy which his studious life had not allowed him, and sold his soul to the devil for the restoration of his youth, and for love. But Mephistopheles was finally vanquished, after producing untold misery and death for Faust and Marguerite, by the great strength and purity of their love.

Not every one is wedded to learning who lives a celibate life, but those who are, surely perpetrate bigamy in marrying a woman. No woman likes second place in her husband's thoughts, and the wife of a man absorbed in public work, or business, or learning, feels she is defrauded of attentions that should be hers; that she has been wooed and won as a matter of con-

venience, and there will surely come a time of rebellion in any spirited woman. Do not be bigamists.

A woman student can better think her way through without the little cares of wifehood and possible motherhood. Dr. Stockham has made clear the idea that the maternal desire can be gratified by giving to the world child *thoughts*—thoughts born of the mind—instead of children born of the body.

Marriage is a school of itself, as life is a school. Even if everything has beforehand been studied as how to attain the best conditions for these relations, it yet remains that few men and women will really and truly know each other until the intimacy of wedded life begins. There are little things to be overlooked in each other, and little discrepancies to be pruned out of one's own character. Pages and pages have been written on "Advice to Wives" and "Advice to Husbands," beginning with "don't do this," or "do that," but no one set of rules will apply. Each husband and each wife is an individuality, and, if wise, they can be a law unto themselves. "Of all actions of a man's life, his marriage does least concern other people," says Selden, "yet, of all actions of our life, it is most meddled with by other people." Now, the object of this chapter is not to meddle with any individual marriage, but to point out a few of the pitfalls common through ignorance.

Eternal vigilance is the price of love as well as of liberty. Like all fire it needs constant fuel; so while the ups and downs of life come and go, do not neglect the courtesies and sweet expressed sentiments toward one another. "I love you" is just as sweet to the wife of five, ten, or fifty years, accompanied by lover kisses and embraces, as it was in the earliest days of courtship. It is a mistake to apply the fuel only once in a while. Sometimes the fire, for want of it, may smoulder away and die, and the re-kindling will be no easy task. Guard well this holy flame that makes marriage sacred.

The world looks on in disapproval of any who attempt to handle the social question without gloves. It prides itself in its ignorance, and calls itself pure. Purity is not ignorance and never will be; it is a great

insight. If ignorance were purity why are the sins of ignorance against natural laws visited with the same severity as sins of any other kind? People are constantly sinning against their bodies when a little of the light of knowledge would enable them to see wherein lay their offense. But the world has so ordained it that those who seek light must find it in hidden places. Not a single school text-book on physiology treats of the sex organs any more than if they did not exist; not a teacher, even if he be awake to the necessity of knowledge regarding that part of the body, dare mention it. Youth is not clean, and schools are even called hot beds of vice. When a youth knows himself he will be less liable to consider marriage as a cloak for lust. He will then steer right his course in order to preserve happiness. At present a girl before marriage is kept from nearly all knowledge regarding wifely or maternal duties. If the young man is informed at all he is usually not one whit more so of a practical character.

Before and after marriage each sex sees in the other that which it demands and craves. If they are mutually agreeable, they are drawn toward each other with impulses for which they forsake all other ties. Therein is great danger, for no other appetite binds its victims more strongly than does passion when given unbridled sway. Every natural appetite is for a good purpose, but excessive gratification is surely depraving. Hunger for food shows the system needs fuel, but eating because the food tastes well brings on dyspepsia and kindred ailments. The habit of indulging any appetite too frequently rivets chains too strong to be broken, and brings in its train disaster.

PAINLESS MIDWIFERY.

How Maternity May Be Made a Blessing.

The superstitions of a thousand years still cling to the ordinary conception of childbirth, and so persistently are they imparted from the elder to the younger that even the advanced civilization and independent reasoning of the present time fail to overcome them.

That childbirth has its dangers would be foolish to deny, but to those who know the laws of nature and obey them the dangers are so very rare that they are almost infinitesimal.

The object of this treatise is to place before prospective mothers, in plain language, such facts as will enable them to comprehend the true conditions and the natural requirements of pregnancy, that it may culminate as a blessing rather than a curse. For one of the superstitions ardently adhered to is the story of the curse pronounced on childbirth by the fall of "Mother Eve," causing almost every woman to feel doomed to agonizing torture should she fulfill her destiny. It would be better, were we to at all consider the story of Eve, to regard it as an illustration of the fact that woman's disobedience of natural laws will entail whatever suffering she may endure at the bearing of her offspring.

Reproduction is a universal law, and is consequently fulfilled by a natural process, from the moment of conception to the time of completed labor. And, unless interfered with by violations of the laws which govern it, child-bearing will be performed in a healthy manner—that is, easily, harmoniously and regularly. But all through the process of reproduction, covering a period of nine calendar months, the proper influences upon the action, involving the condition and environment and behavior of the mother, should be matters for most careful thought, that natural process may not in any way be hindered.

To sow grain in a field of weeds and rushes would be useless; for grain cannot thrive where the strength of the soil is used for the sustenance of coarser and more avaricious plants. Nor can the human embryo develop when the body is taxed to its utmost to overcome disease or to fight against repeated violations of the ordinary laws of health.

Pregnancy demands increased vital action. Not only must the mother maintain herself but she must also maintain her child. Her vigor cannot be allowed to remain stationary or it will soon become exhausted; it must increase, and proportionately with the growth and development of the new being, else the comple-

tion of the final act will consume what should be needed for recuperation.

Whatever may be ordinarily necessary to a healthy body now becomes more than doubly so, and not only that, but everything should be provided that favors its extraordinarily healthful maintenance. Stint in nothing, but avoid excess. The demand and supply should be equalized; over-indulgence is detrimental, for it can be endured only at the expense of vitality.

The great mental influence exerted by the mother upon the future disposition of the child does not lie within our present province. But it is of prime importance to consider the influence of her mind over her own physical being. During pregnancy the whole nervous system is in a state of exaltation. This is a necessity on account of the increased amount of work to be performed. But this nervous exaltation is not a disease, for it is just as natural as increased pulsations of the arteries or increased respirations during the performance of extraordinary manual labor.

Pregnant women become extremely sensitive, both to physical impressions and mental influence. Those about her should remember this and make due allowance for her peevishness and sometimes trying perverseness. But, at the same time, the mother herself, knowing how easily her nerves are "unstrung," should compel judgment to overcome impulse. Let her realize that when "all things seem to go wrong," or others appear to slight her or give offence, that possibly under other circumstances such matters would go unnoticed. Anger and moroseness always disturb the equilibrium of the system. They are to be avoided as much as physical injuries; and the disposition to sit and think with dread of "the great ordeal" to be passed through is one of the surest means of making trouble. Such a disposition must be early overcome.

Don't try to cross the bridge before you come to it, or imagine that there is no bridge for you, but only a rocky ford. Travellers along a well-kept road, over which thousands are daily passing, are reasonably certain to find easy means of crossing any stream they may come to. But travelling through gloomy woods of despair in narrow paths, obstructed by excesses

and results of neglected duties, gives no promise of an easy exit. It is not necessary to analyze the relationship of mind and matter; it exists, and too much stress cannot be laid upon the importance of preserving an equanimity of mind under every circumstance.

In this connection may be mentioned the inevitable over-sensitiveness to pain. There must always be a cause for unnatural sensations, and the cause should be searched for and removed. The habit of using narcotic drugs is not only foolhardy, but absolutely dangerous.

To tie a handkerchief across the mouth and nostrils to check the rapid respiration, causing inconvenience during a foot race while wearing a too tight collar, would be no more absurd than to indulge in opiates to paralyze the exalted nervous actions aroused by physical indiscretions, for paralyzed or weakened nerves cannot perform the extra work demanded of them during the months of pregnancy.

Sleep is "tired nature's sweet restorer," and the pregnant mother should enjoy it in abundance. Regular habits in this direction are of importance. Do not wait until the mind and body, both, or either one, are weary. Extra work is being done and extra rest must be secured. Ten hours out of twenty-four are not too many to devote to sleep, and if these cannot be taken all at once, divide the time, and in the afternoon secure a nap. But let the sleeping hours be regular, and if possible sleep alone and enjoy all the rest which that implies to married women. During the last three months of pregnancy this last should be imperative.

An abundance of fresh air must be admitted to the sleeping room; there is more than the usual amount of blood to be aerated; one pair of lungs must perform the work of two and that under most unusual circumstances. The child is in the womb where its lungs cannot be inflated, and the mother's lungs are, in the later months, crowded by that same distended womb, and always given extra work to do, requiring more oxygen to carry on the disturbed circulation.

Let the air that is breathed under every circumstance be pure. It is in the lungs that many of the impurities of the blood are discharged, and if there

they are not carried away by contact with pure air they must in part at least be taken back into the system, along with such other impurities as enter. Every hour that contaminated atmosphere is breathed adds its proportion of pain to childbirth.

But impurities are not thrown off by the lungs alone. Millions upon millions of little pores in the skin do service in this line, and to keep them open and active is important. Cleanliness has become a relative term, even among the most fastidious. Bathing the entire body once a week and the face and hands several times a day is usually deemed sufficient. But during the period of pregnancy no woman should be content with this, but on the other hand it is well to remember that human beings are not amphibious, and the matter of bathing should not be overdone. Cleanliness alone is not the only object of a morning bath, but the maintenance of a healthy action of the skin is to be aided by it.

The extra amount of work to be done by the internal organs makes the surface much more liable to disturbances of circulation, and for that reason extra precautions should be taken to maintain its natural performance of function.

Some recommend daily baths in cold water—these are good if agreeable to the bather, but they should be sponge baths, and only a very limited portion of the body at a time should be washed with cold water quickly, and immediately rubbed thoroughly dry before another portion is bathed. The addition of sea-salt, or ordinary salt, makes such a bath more stimulating and invigorating. In addition to this daily sponge bath, a good hot sitz bath, of short duration, should be taken once a week. But under every circumstance have the water pure. It is worse than useless to bathe in rain water run into a barrel from the roof and laden with various forms of micro-organisms. In a warm water bath taken for cleansing purposes, powdered borax (a teaspoonful to two gallons) should be used instead of soap. This will keep the skin pliant, and also have upon it a tonic effect.

During the latter months of pregnancy the skin over the abdomen becomes tense and feels most uncomfort-

able. To relieve this disagreeable sensation lard or various oils are rubbed over the surface. It must be remembered that the skin absorbs as well as throws off material, and only the purest oil should be employed. Sweet oil is good, if the proper article can be obtained, but nearly all of that oil on the market is greatly adulterated. Cocoanut oil is by far the best, and if used frequently it will entirely relieve the feeling of tenseness, and also cause the skin of the abdomen to return to more nearly its former appearance after delivery.

The surface of the body being so sensitive at this time, the character of the clothing worn must be carefully considered. This must be in accordance with the atmospheric temperature, and during summer or winter the changes of the weather must be accompanied by changes of the clothing. No prescribed amount of clothing can be adopted, for persons differ in temperament. But the body must always be kept just warm enough, but not too warm.

Chilling of the surface closes the pores and hinders the egress of impurities; it also contracts the minute blood vessels, thereby diminishing the circulation in the skin and throwing an extra amount of blood inward upon the internal organs. This often brings about disagreeable results. The excessive flow some women experience during pregnancy is chiefly brought about in this way—drafts of air causing chilliness of the surface and an extra amount of secretion from the mucous membrane.

Another point in regard to the clothing should be assiduously attended to, and that is tightness. Many people through modesty, or pride, or sensitiveness, use effort and even force to prevent others from knowing their condition, and all sorts of methods have been contrived to preserve the shape and compress the abdomen. Any woman of ordinary intelligence knows without being told that such methods are harmful and sometimes even dangerous, and whoever thus compresses her body must expect to experience the inevitable suffering it will occasion at the time of childbirth. There are now so many ways of draping the figure that the discarding of corsets need not be a

matter of hesitation. Some very wisely wear a heavy corset-waist, and others suspend all their clothing from the shoulders. Compression is sure to cause damage and suffering.

The impregnated womb constantly expands, and it must have room for expansion. Naturally the organ is suspended by ligaments, and there is but slight resistance to its enlargement. But artificially the walls of the abdomen are so bound in by tight clothing as to render resistance to the development of the womb. Necessarily, then, the structure of its walls becomes more dense than natural, and all the structures about share in the unnatural condition. The muscular fibres are less yielding than they should be; and when the time comes for them to alternately relax and contract to aid in the expulsion of the child, they are unable to do so without great difficulty, and this causes prolonged and painful labor, the delicate nerves of the womb being pinched and tortured as the dense muscular fibres contract upon them. The venous circulation, that is, the return of blood to the heart, is always more or less obstructed during pregnancy. This is often made apparent by varicose or distended veins, those of the lower limbs being most frequently swollen, and in some so much so as to require the wearing of elastic stockings; but this annoyance is infrequent with those who carefully obey natural laws. It is evident that all things calculated to hinder the flow of venous blood should be avoided. A few of them may be mentioned.

The distention of the venous capillaries, or minute veins, occasions the purplish cast to the toper's countenance, giving evidence of the effect that alcohol would produce in the circulation of the blood of pregnant women. It is a false stimulant, and although it may cause a feeling of exhilaration immediately after being taken, the feeling is due to the increased vital action aroused to overcome the injurious effects always occasioned by its administration. Letting alone all matters of sentiment and ignoring the possibility of fastening a habit by inheritance upon offspring, from a purely physical standpoint all pregnant women should scrupulously avoid the use of alcoholic liquors.

They are not nourishing and their pleasant effects are transient. The more they are indulged in the more will be the dangers of delivery.

Other things may cause equally undesirable disturbances of the venous circulation by making the blood too rich or sluggish. Among them are the highly seasoned and rich foods, which should be placed under the ban during the period of gestation.

It is well known that the urine of pregnant women contains substances that are not natural to it under ordinary circumstances. These substances are usually albumen and sugar, and their presence signifies that more of those substances are being taken into the system than can be appropriated, consequently the excess becomes manifest in the urine, which is the drainage of the system. Potatoes and other foods containing starch are the chief sugar forming foods, and their use should be restricted, and some debar them altogether, though if eaten with plenty of fruit, or as some are able to do, with drinks of buttermilk, they are more readily assimilated. The excessive potatoe eater often complains of difficult breathing on account of the lungs being unable to aerate the large amount of carbonaceous material in the blood. Unappropriated food of any kind in the system will cause obstructions and unavoidably increase the suffering of childbirth.

Eggs and cheese are albuminous foods and should not be eaten as a rule, although those whose family physicians consider able to appropriate them have an excuse for their indulgence. Cheese is especially harmful to many, especially those whose kidneys seem at fault. Such persons cannot be too careful. Swelling of the feet and limbs is frequent with all pregnant women, but when it is accompanied with dizziness and impaired vision and puffiness under the eyes, the kidneys are disturbed and great danger is imminent from re-absorption of poisonous material which should pass off through the urine. For this reason that woman is safest who leaves meat and cheese alone entirely during the term of gestation. There are abundant vegetables and fruits to more than nourish and give variety of food. Too much cannot be said in

favor of a fruit diet. It is the universal testimony of those who have lived upon it that childbearing was easy and the whole period of pregnancy void of unpleasantness. Fruits can be obtained at any season of the year and should be the main kind of food. Meat eating is largely a habit which can soon be overcome, and if prospective mothers could realize the great amount of suffering to be saved by overcoming the habit they would not hesitate to live on nature's bountiful supply of vegetables and fruits.

Of equal importance with what is taken into the body, must be the proper attention to the excretions. Disease is sure to follow neglect in this direction, and carelessness will be rewarded by future suffering. Never, under any circumstance, allow more than twenty-four hours to go by without a free passage from the bowels. Make this an imperative daily duty and let the time of its performance be at regular intervals. Rigidly give nature this opportunity to rid the body of excrementitious material and it will usually be accomplished.

If a free passage of the bowels cannot be obtained at the specified time, do not wait until the next day or for a dose of physic or cathartic pills to take effect, but immediately employ a luke-warm water injection to the lower bowel, and cleanse it out thoroughly. A three-quart fountain syringe should be the property of every pregnant woman.

Constipation need never occur in pregnancy if all the rules of diet and hygiene are observed. The woman who says she has had no passage from the bowels for several days acknowledges herself filthy through her own carelessness or laziness, and is positively laying up future trouble for herself and in advance magnifying the pains of childbirth. The interruption to free circulation so near the womb caused by the presence of impacted material in the lower bowel would, of itself, cause trouble, but worse than that is the re-absorption of morbid material. The rectum is not simply a leather sack, but it is a part of the human body, and that material placed in it is readily absorbed by the system is clearly shown by the rapid action which follows the administration of drugs by

enemas. Water is plentiful and syringes are cheap, and those who fail to use them when needed must expect to pay the penalty in the lying-in room. An abundance of fruit and vegetables, plenty of pure water and good exercise and regularity of habits will render constipation almost an impossibility. And yet this difficulty, so easily avoided, has come to be regarded as almost an unavoidable accompaniment of pregnancy.

At this place it may be proper to mention the desirability of drinking an abundance of pure water, not too cold. Every tissue of the body, except the enamel of the teeth, contains water. Its free use will aid in the carrying off of impurities, and is of especial value during pregnancy when the circulation is impeded and obstructions are liable to occur. Tea and coffee are not substitutes for water; and that woman is wisest who will leave them alone; though during gestation is a poor time to commence to overcome bad habits, yet it is far better to overcome them than to continue them to the detriment of health. Regularity of life and as few changes as possible should be the rule.

Exercise is an important factor in the maintenance of health; and a large train of the so-called diseases of pregnancy are mainly attributed to neglect in this respect. It is a very foolish notion to entertain that pregnancy means invalidism—the fact is just the contrary. All the functions of the body are naturally urged to increased action, there is exaltation everywhere, and when there is increased vigor there should be increased exercise to maintain it. Walking is excellent, especially in the fresh air. It does not do injury to stand on the feet unless it is carried to the point of fatigue. Running and rapid walking, of course, would be unsuitable, and there is no occasion for it. But a great amount of ordinary walking can be endured to great advantage. But during the walk let the figure be erect and the shoulders thrown well back. Many women to conceal their form walk with the body bent forward. Such exercise is worse than none at all. It cramps the body and causes pressure on the womb. It is no wonder such women soon tire.

It is a habit easily acquired and an absolutely dangerous one. When the abdomen becomes very much enlarged and walking out doors must be a matter of embarrassment during the day, the evenings should be devoted to it, and during the daytime walking back and forth through the house is of advantage. Working is good; it keeps both the mind and body employed. Those women who are compelled to perform ordinary household duties until the last moment, provided they are not too onerous, usually recuperate the most speedily after labor.

Riding is enjoyable and beneficial, but those who indulge in it are too prone to neglect the more suitable exercise of walking, and in the latter months of pregnancy riding may be a source of danger. A sudden jolt of the carriage may be the means of twisting the navel cord about the child's neck, and thus cause trouble at birth. Bicycle riding in moderation has been found of benefit during the early months, but after the third month should be discontinued. Some believe sewing machine work unsuitable, but when not carried to excess there is nothing to be feared from it.

Companionship with sensible people is most desirable, and there should be plenty of it, but avoid the chronic croaker like you would a witch. There are a few old relics of the superstitious ages still existing who seem to take delight in filling the minds of prospective mothers with all sorts of nonsensical fears; and their recitals of disasters and troubles of all kinds are calculated to disturb an over-sensitive person, who thinks "their experience" should be of value. But the fact is their woeful tales are largely imagined and their experiences exaggerated. Far better is it to be alone than to associate with such uncanny folk. "Make it a rule to mingle with women younger than yourself," is good advice.

Control the thoughts under all circumstances. They can be made subject to control the same as actions can. Whenever gloomy forebodings arise, dispel them. "Sufficient unto the day is the evil thereof." Live correctly, and after the child is born and the mother has recuperated, she will realize that

the possession of a healthy child does not entail a curse.

A Few Suggestions of Value.

Occasionally a few disturbances arise in spite of the most careful observance of the laws of health; though as a rule nearly every pain or kind of suffering during pregnancy may be traced to some violation of what was known to be right.

Vomiting naturally occurs with some women soon after conception. This is sympathetic in character and should give no cause for alarm. There are innumerable nostrums on the market advertised to overcome it. But one of the simplest and most efficient remedies is a half cupful of ordinary oat tea, made by steeping a teaspoonful of oats in hot water for half an hour. A preventive of vomiting, and at the same time a most delicious and nourishing drink for use at all times is made by pouring a gallon of cold water on a pound of oatmeal or rolled oats in a stone crock, stirring well and allowing to settle in a cool place. The water from off the top will be found most refreshing and will quench the thirst when other drinks fail. It will also be of the greatest benefit in the nourishment of both the mother and the child.

Abdominal pains are sometimes very annoying. The recumbent position usually relieves them, though it may be found necessary to rub over the abdomen a slightly stimulating liniment at times. It is surprising how much relief from the annoying, wandering pains of pregnancy can be obtained by using an injection to the bowels of an infusion of boneset, made by pouring a pint of hot water on an ounce of boneset herb and allowing it to cool and then straining. For sleeplessness see that there is an abundance of fresh air in the room. If this does not answer, drink one or two cupfuls of very hot water just before retiring. The drinking of such water at any time is very beneficial.

For excessive swelling of the limbs or for the relief of varicose veins there is nothing better or simpler than drinking an infusion of goldenseal—a teaspoonful of the powdered root to a cupful of boiling water. If remedies must be used in the way of drugs, let them be

simple. But if the instructions laid down in this treatise are observed, and the reasons, as given, are comprehended and acted upon, there will be no occasion for trouble, and the horrors of childbirth as portrayed by the violators of natural laws will never be experienced.

DISEASES OF THE GENERATIVE ORGANS.

Neurasthenia.

This disease is also denominated "nervous debility," spermatorrhea, etc., and is a very common disease among men. It usually begins at the age of puberty. It has many causes, among which may be mentioned urethritis, prostatitis, constipation, piles, worms in the rectum, chronic inflammation of the bladder, stone or gravel, marital excesses, morbid imaginations, masturbation and spinal irritation.

Either one or several of these causes may operate at once, hence the necessity for a careful examination that the cause may be sought for and removed, otherwise no treatment will be of any avail. A careful study of the genito-urinary apparatus and its relation to surrounding parts is the key to success in the treatment of this most difficult disease.

Inflammation of the urethra is a very frequent source of this disease. It may be produced by direct injury, or long continued bad habits. The latter is responsible for more cases than any other single cause. Any inflammation of the urethra, long continued, is liable, on account of the extreme sensibility of the parts, to produce permanent trouble.

Young men suffering from this disease or its effects, should carefully consider the causes and avoid them if possible. Abuses of the body are a fruitful source of this complaint. Early in life boys are initiated into baneful habits, which in after years they find it difficult to break away from. Under their influence the youth grows pale, sickly, nervous and debilitated. Parents and guardians should exercise great care with children about the age of puberty. They should be so instructed in regard to the proper care of themselves

that vicious habits will not be contracted. A shirking of parental duty, with temptation and evil associations may form the beginning of bad habits that, sooner or later, will wreck both body and mind. It is extremely important that these bad habits, when known to exist, be corrected at an early age, that their victims be treated in the kindest and most tender manner, and every influence for good be brought to bear, that they may be saved to themselves and not become a burden to society. In order to accomplish this the mind ought to be constantly occupied. Seductive reading, trashy love stories and lewd conversation ought to be interdicted. Children of opposite sexes ought not to occupy the same sleeping apartment. Out-door exercise for both sexes should be freely encouraged, as should also be the mingling of the sexes under proper restraint and supervision. Much is gained by thus associating in early life and it acts as a safeguard against solitary habits. Children must be carefully watched. An inclination to be alone together, with a peevish temper, pale and fretful, morose and depressed in disposition, ought to excite suspicion. There should be no hesitation on the part of parents in purely discussing these subjects with children. If they are to be saved it cannot be commenced too soon. Many a child, bright and lively, has become dull, listless, morose and lost all its energy from this cause. Poor memory, hesitating speech and general stupidity are the usual results of these practices. It may require watchfulness and care to break up these habits, but no trouble should be considered too great where so much is at stake. Young minds can be reasoned with, and shown the injury that a continuation of these sins against one's self will result in, and this is usually all that will be found necessary.

Diseased and unnatural conditions frequently cause these abuses. Worms in the rectum should not be overlooked. They induce itching and scratching to such an extent that the genitals are made very sensitive. Cutaneous eruptions by their burning and irritation are also responsible for many cases. The close sympathy between the genital organs and the spinal cord accounts for the shock to the brain and is respon

sible for the failing mentality which mark those addicted to these practices. No wonder it so frequently ends in hypochondria, epilepsy, dementia and suicide.

The stomach and digestion also becomes impaired in consequence of the irritation of the nerve centers. The want of proper nutrition soon leaves its impress on the whole system; the body becomes weak, the nerves unstrung and the mind unbalanced.

One of the unfortunate effects of this vice is coldness in the conjugal state, disappointment and consequent unhappiness.

Morbid imagination caused by bad habits often leads the patient to think himself incurable and as destined to go through life always a victim to his own folly. This idea is absurd and ought to be discouraged. These cases are as amenable to proper treatment as any other class of disease, and will yield as readily to the best remedies. In these cases it is well to fix the mind upon chaste subjects, to avoid all excesses of whatever nature, and if medicine is needed to apply to some physician skilled in the treatment of this class of disease. Marriage can be looked forward to with hope, but ought not to be entered into before the patient is fully satisfied that his physical health is perfect.

Syphilis—Blood Poison.

This disease is acquired or transmitted from one person to another by direct inoculation, or by contact of the virus with the mucous surfaces. About twenty-five per cent of all those affected contract it through the medium of drinking vessels, teaspoons, pipes, and other articles used by those who have the disease. Wherever the virus finds entrance into the system a small specific ulcer will form with a hardened base, called chancre, which usually makes its appearance within three weeks of the time of infection. Occasionally it is delayed much longer, the author having seen one case where sixty-five days elapsed before the sore made its appearance. The ulcer is at times very small, and sometimes passes almost unnoticed. Following the ulcer at a period of one to three months, the *secondary* symptoms usually begin. These are pre-

ceded by languor, pains in the bones, enlargement of the lymphatic glands, weakness, loss of flesh, poor digestion, paleness of countenance, etc.

One of the first of these is usually a rash, which may cover the whole or only a part of the body. It has a coppery color and is usually thickest in the bends of the limb. The tonsils become ulcerated and are covered with a gray exudation. It is not painful and has little tendency to spread. The glands of the neck become enlarged, especially those behind. The mouth becomes sore; tongue, palate and pharynx in particular. The hair becomes dry, brittle and falls out in large and small patches. Temporary and permanent blindness are sometimes caused by the disease attacking the *iris*. A thickening of the covering of the bones—periostitis—is a frequent symptom. The secondary stage usually lasts from six to twelve months, but occasionally much longer.

After the subsidence of the secondary stage, the so-called third or *tertiary* stage *may* develop. There are skin eruptions, gummy tumors and ulcerations of various parts of the body. The ulcer may begin anywhere, sometimes more than one commencing at the same time. They are difficult to heal and usually destroy considerable tissue. Syphilis often causes decay of the bones, large pieces at times becoming detached, making ugly sores. It is not an uncommon sight to see people whose nose, palate and ribs have been more or less destroyed. These symptoms are always accompanied with more or less general disturbance of the system.

Syphilis is often hereditary, being transmitted by one parent, or both, even to the third generation. *The disease can also be communicated to the mother by the unborn child.* It is frequently given to children by wet nurses who are infected with it, and in turn given to nurses by children who have inherited it. In these cases the symptoms are generally mild.

Treatment.—The main thing in syphilis is to avoid the use of mercury in any form as a remedy. It is both useless and dangerous. It is undoubtedly the cause of many of the tertiary symptoms that make the disease so horrible and destructive. In twenty-three

years' practice, during which time the author has had unusual advantages, having had hundreds of these cases under his care, his treatment has been uniformly successful without one grain of mercury being administered. The best and most efficient remedies are those of vegetable origin. In this disease great care should be paid to hygiene and sanitation. Whiskey and tobacco must be avoided. The former inflames the blood and the latter irritates the mouth, keeping it continually sore.

It is impossible to give a general formula for the cure of this disease, as the medicine must be varied from time to time to meet the different indications and symptoms as they arise. Persons afflicted with it should place themselves under skilled treatment and follow out conscientiously the advice of the physician.

Urethritis.

This is, unfortunately, one of the most frequent forms of venereal disease. It is always due to direct contact with a diseased person, or an infectious discharge. It usually appears from two to fourteen days after exposure and begins with itching and uneasiness. This is followed by a discharge more or less profuse and considerable pain on urinating. The disease usually lasts from four to six weeks, but occasionally cases are met with that have existed for years and resisted all kinds of treatment.

Persons having this disease should exercise great care and not permit any of the matter to come in contact with the eyes. Total blindness may be the result if this precaution is not observed.

Treatment.—Great cleanliness should be observed from the beginning. The following prescription will be found excellent in the acute form of the disease.

Bi-carbonate of Soda *two drachms.*
Tincture of Lycopus *four drachms.*
Water *four ounces.*

Mix. Dose, a teaspoonful three times a day. This will usually suffice for a cure if persistently used.

The chronic form, called gleet, is produced by so many different causes that no general prescription can be given. In these cases it is better to consult some one who makes a specialty of genito-urinary disease.

Varicocele.

Varicocele, strictly speaking, is an enlargement of the veins accompanying the spermatic cord and within the scrotum. At times, even mild cases are productive of great annoyance, and for that reason ought to be cured. It is more frequent than generally supposed. A celebrated French writer places the proportion at sixty per cent of adult males. This, however, is probably an exaggerated statement. In my own practice, not over ten per cent of adult males are troubled with varicocele.

The presence of varicocele disqualifies a man both for police and military service until a cure is effected. Physicians are frequently called upon to operate for this difficulty in men who have been rejected for the public service on account of it. It is usually situated in the left side, rarely in the right—though sometimes on both sides. There are several causes, such as constipation, horseback riding and injury. Masturbation is, however, the most frequent cause and is probably responsible for more cases than all other causes combined.

The symptoms of varicocele are so well known that it is easily recognized by the patient. It usually begins gradually, and the patient is not aware of it for a long time. It continues to grow until finally it is as large as a hen's egg, or even an orange. It most resembles a large bunch of earth worms, or mushy tumor enclosed in a sack. This description is quite accurate, as most patients know. The veins of the scrotum are tortuous and dilated, which at times become very painful. Neuralgia of the testicle is frequent. In time the testicle wastes away and becomes completely atrophied. Vidal has called attention to the fact that suicidal impulses are frequently observed in the subject of varicocele. He speaks of a hospital physician who threatened to blow out his brains if he

could not be promised a cure. Should the tumor be large the physical deformity is great. Impotence, pollutions and spermatorrhea often refuse to yield to treatment until the varicocele has been cured. Neuralgic pains are so severe at times that patients are utterly incapacitated for work. In warm climates the disease is usually of a more severe type. The pain in varicocele may be very severe or none at all. Old people usually suffer no pain except in the beginning of the disease. In other cases the pain is so severe that the patients suggest castration as a remedy, though this under no circumstances ought to be resorted to.

One of the most serious results of varicocele is wasting of the testicle. This is an inevitable result, sooner or later, and one of the strongest arguments in favor of surgical interference.

The treatment of varicocele, especially mild cases, is very simple. Strict attention should be paid to the bowels, sexual excesses avoided, and masturbation abandoned. Frequent bathing in cold water is excellent, and much comfort can be had by wearing a suspensory. These measures are not, however, a cure. They are merely palliative, having a tendency to relieve the tension on the veins, and thus allay the feeling of discomfort. The radical treatment for varicocele is the best. We do not say every case requires it, but where other treatment fails, there should be no hesitation on the part of the patient. The ligature is safe and certain. In this operation no chloroform or ether is required. I know it is claimed by some surgeons that wasting of the testicle sometimes follows the ligation of the veins. This, however, is not true. I have had a number of my cases under observation during the last few years and can truthfully say that it has not occurred. In all cases the testes became larger and firmer.

HOW TO PROMOTE HUMAN HAPPINESS.

Health and Happiness Necessary Each to the Other.

Health is necessary for happiness but not more so than that happiness is necessary for health. Present

economic conditions are largely responsible for much of that the physician has to contend with. Hence, to promote human happiness is to conserve the public health. The great drawback to the enjoyment of life is the constant fear of poverty. This is the cloud that forever hangs over the masses, ‘freezes the genial current of the soul’ and develops the suspicious and selfish side of our natures.

Then the first great factor in the promotion of human happiness must be the establishment of economic conditions where the willingness to work four hours a day shall forever banish the fear of poverty.

The second factor in importance in the promotion of human happiness is how to behave in order to keep your body healthy, for without health there can be no happiness.

The third factor in the problem of human happiness is how to promote intellectual development, for the happiness that is only on the animal and physical plane is of an inferior order.

If I can, by the elucidation of these factors, throw any light on the way to happiness that so few have found, I shall feel that I have not lived in vain, for this subject, of all others, is most important.

I sincerely hope that I may be able to command the language that will convince the people that poverty is not a necessary condition of human existence, and that this planet is very wealthy and very bountiful and very generous; and that it is our own grasping, wicked selfishness and ignorance that has brought on us the retribution and the penalty of poverty and its diseases.

Wealth is that which sustains life and makes it enjoyable. Namely, food and fuel, houses, furniture, clothing and books. Money is only something to measure these things with, and is not wealth itself, because it does not possess the necessary qualifications of wealth; but food and houses do—namely, to sustain life and make it enjoyable. Therefore this world is very wealthy. America alone possesses the power to feed and clothe and house not only her seventy millions, but can also do so lavishly for the fourteen hundred million human beings on the face of the earth. Her forests and her quarries and unlimited brick fields

could build all their houses; her fields and flocks could easily be made to furnish food and clothing for all, and in doing this no man need be called on to work more than four hours a day. After a few years of scientific and just economic conditions poverty would be remembered only as a hideous nightmare of the past.

"But," says the reflective reader, "you have made some tremendous and apparently visionary assertions; if you are a rational man you will state the grounds on which you found them."

As I claim to be a calm, rational man, and as the above proposition is reasonable, I will proceed to prove beyond a peradventure that the above is easily within the limits of our capabilities. I admit that fifty years ago the picture I have painted would not have been founded in fact, but a new factor has come into existence, namely, ingenious inventions. With this factor we can and do indefinitely command the forces of nature to do the work of men and harness the elements to be our servants.

Fifty years ago two vessels left America for England. It was not thought strange that there was a week's difference in the time they took. Two vessels made the same voyage last week [from time of this writing] and there was just six minutes difference in the time they took. They carried twenty times as much in one sixth of the time, and were far more certain to reach their destination. Science had put an honest heart and a mighty pulse into these ships that never missed a throb from shore to shore. Science must come to the rescue and put an honest heart into society, for at present we are not a nation but a heartless mob of conflicting units counteracting each others efforts.

Science is everywhere shedding her beneficent light and revolutionizing the methods of distribution and production, and she is a welcome guest in all departments except that of economics. The awful and constant fear of poverty is the result of the fact that science has not yet put an honest heart into society. O! that I might be able to convince humanity that it would be a desirable thing to have for those who are wealthy as well as for those who are poor.

It should not take any eloquence to convince people that a given number of men can now distribute twenty times as many goods by railroad and steamship as they could fifty years ago with wagons and sailing ships. And so it also is in the production of wealth. A little girl, with the assistance of inventions, can produce more cloth than fifty men could as many years ago. Then men, not girls, did the work. But as machinery improves, less skill is required to run it. That heartless fiend, called competition, demanding the employment of the cheapest labor, discharges the father and hires the mother and her children. The father used to sell his own labor, but finding no market, sells the labor of his helpless child, and that child is as much a slave, and the father as much a slave-trader as though he had a bill of sale of her. Would that I had a pen dipped in the blood of the competitive system and directed by the essence of sarcasm, that I might do justice to the unalloyed villainy of white child slave labor. Can it be possible that the beneficent inventions of the world, now doing the work of man, should have culminated in imprisoning, in factories at hard labor, helpless little children.

Before we compelled the tireless forces of Nature to lighten our labor, we were not guilty of stunting and distorting the bodies of children and completely crushing out the joy of their young lives. This crime is so hideous that the savage in the jungle would blush to commit it.

Look at the children playing in the wild woods; frolicsome as kittens and free as the air. Look at the Christian's children in their stench-filled squalid tenement room, where their careworn eyes can rest on nothing green, and while they turn their weary bodies in a vain search for rest, they have no choice, but must survey a smoky sore on the face of Nature filled up with bricks and mortar.

Words are flat and incapable of expressing the concentrated wickedness of this crime that is committed against the helpless children in the name of civilization and by the hand of the fiend called competition.

That it is competition that commits this fearful crime can be proven with a certainty. There are

some departments of industry that have become civilized and that have a heart in them and in which the grinding monster, competition, plays no part. These industries are they that do the whole of those classes of work rendered to the nation, and in which there is no opportunity to compete or cut down prices so low that they cannot afford to hire men, but fill their places with children.

There is no competition in the postal service. It does not make slaves of children. The men in that service get salary sufficient to enable them to raise happy children, send them to kindergartens and develop their minds and bodies. So with the school service, the water works, the fire department and every service that is rendered by the people for the people.

"But," says some one, "these are public services, and we all know that public officials are terribly corrupt. It follows that if you increase the number of public services you necessarily increase the number of corrupt officials." This looks like an irrefutable statement on the face of it. Nevertheless, I will prove conclusively that it is entirely false.

Men who want to be elected to the legislature spend four times the amount of money for that purpose than the amount of their legitimate salary. Why do they do this? Simply because they know that there are many outside private corporations anxious to pay them large sums of money for their votes for a valuable franchise, or an exclusive right to do a public service—and the privilege of charging the public four prices for it. To illustrate: A private corporation bribed certain aldermen to pass an ordinance granting them the privilege to furnish the people of this city with gas at \$1.25 per thousand. If furnishing gas was conducted like the postal service, the cost of the gas to the people would only be 25 cents per thousand feet. If they charged 30 cents per thousand feet, and used 5 cents of it for boodling purposes, as soon as they were known to have pocketed the 5 cents over the cost of the gas, they would be put into jails as criminals.

But if a private corporation steals a dollar per thousand feet over cost, it is not called "boodles," but

talented business dividends. You see that the same thing that is called respectable and meritorious dividends in private operations, is called criminal and corrupt boodle in the public service. But the argument that completely refutes the plea that corruption will increase with the increase of public service, is this: If the people of the city organized to furnish their own gas, their own street cars, their own telephones, railroads and every other service, and had no franchise to sell or vote away for a private consideration, then the incentive for outside private corporations to bribe the people's servants would stop.

As there would be no "boodle" in the position of an alderman or legislator, corruption, in order to get elected, would cease; then we would have an honest class of public servants. Under the management of this class of men there could be no such thing as making the communities pay five prices for gas in order to pay a dividend on seven millions of stock watered to \$40,000,000. Deluded humanity admire men who rob them of millions, if you only call it dividends, yet how they will rave and fume at a thousand dollar robbery if you call it "boodle." At present, with the incentive that outside private corporations have to corrupt the people's servants, the amount of money called "boodle"—which means the sum over and above the value of the service rendered to the public by *public* servants—is not a thousandth part of the amount of money called "dividends"—which means the sum over and above the value of the service rendered to the public by its *private* servants.

These remarks may, to some, appear as a digression from the subject of "how to promote human happiness," but others will see that it is written to make people recognize the great beneficence of organized production; written in the hope of making people see that this is the way to banish poverty.

Every line of industry that is organized for the people by the people, and taken from the realm of competition, ceases to imprison children in factories, but employs the fathers, paying them enough to live happily and provide for their families.

I have stated that we can now transport, with the

same amount of labor, twenty times as many goods by steamships and railroads as we could fifty years ago by sailing ships and wagons. Every reflecting man must see that electricity, steam and ingenious inventions have also given us the power to produce twenty times as much wealth as we did then. One man, with an improved harvester, does as much as three hundred men used to do with sickles. A great log passes up against a set of saws and while you breathe but a few times it is converted into lumber. Clay is fed to a machine and perfect bricks result. A pair of boots used to be a day's work; factories now produce a pair an hour for every man, and this is one of the lines of least advance. Cloth can be produced now as if by magic. All these things produced are wealth.

Now, it being true that we can produce and distribute twenty times as much wealth as we could fifty years ago, the natural inquiry is: Why do we not do so? Are we too lazy? No; only ignorant.

The sun has stored up in Pennsylvania and other States billions upon billions of tons of anthracite coal as a legacy to mankind to make their firesides happy, and we have both machinery and men to mine it rapidly. But we are such fools that we permit a dozen infernal rascals say that they shall not permit us to take it out of the ground; that they will limit the output to half of what we need, and make war on the seventy millions by freezing hundreds to death annually and making hundreds of thousands wretched. This is one of the evil results of our veneration for a wicked vested right. Men must learn to trample on them, because a vested right to one individual is a monstrous wrong to millions. The vested-rights gentlemen are dogs in Nature's manger—they will not dig coal themselves or let anyone else. Nature's bounties belong to all, but privileged villains seize, by vested rights, the wealth in her bosom.

If people are so foolish as to permit this state of affairs to longer continue they deserve to be frozen. The law is such that, without change, the remedy is within our power. The State reserves the right of eminent domain to all lands where their use is diverted from the public good to the public detriment. The

people must call on the State to use her power to reclaim the coal beds. Organize this industry like the postal service, take the children out of it, work the mines for the people and by the people, place no limit on the output but make demand the measure of supply and cost the limit of price. When this is accomplished the lamentable and disgraceful scenes and conditions now almost yearly witnessed throughout the coal-producing States of the Union will have ceased forever; the humblest will be able to procure fuel for helpless children and mothers and the miner's home will radiate with health and happiness.

When an industry furnishes the whole of one commodity to the nation, like the Standard Oil Company, the Sugar Trust, or that of anthracite coal, villainous competition is driven out of the capitalistic *half* of that industry only—hence our millionaires. Competition then afflicts the labor half of that industry worse than before—hence they become mendicants. Foolish individualists say that the poverty of the world is caused by trusts and syndicates abolishing free competition. Now, so far as they relate to themselves, they do abolish free competition, and that is why they all flourish, but so far as they relate to labor, they do not interfere with competition, but they hire men, not according to the value of their labor, but according to the degree of their necessity; and those who are the most destitute will work for the least. It is not to the interest of a coal trust to produce wealth, for there is more profit from the one ton at six dollars than from two tons at four dollars, hence it is to their interest to limit the supply and make prices high; in other words, leave the wealth in the ground and rob and freeze the people.

No man, who has the least idea of the wonderful power of our wealth-producing inventions, will deny or doubt for a moment that we can produce wealth to the value of from five to ten dollars per day for every man, woman and child. Then the question naturally arises: Why not—when so many are wretchedly poor—do so? We are very willing and very anxious to produce this unbounded wealth, and make pinching poverty appear but as a hideous specter of the past,

only to be remembered with a shudder. Then what is the trouble? The awful calamity is at present that every man is only for himself, destitution takes the hindmost, and that capital and labor are in separate hands, and their conflicting interests has put a deadlock on production.

The explanation and removal of this deadlock on production is, beyond a doubt, the most important subject on earth, for it is more than the lion in the way—it is the mountain in the way of human happiness.

If you never before gave your strict attention to anything else, I plead with you, for your own good and that of all posterity, to read the following often enough to thoroughly understand it that you may lend a hand and a mind to open the deadlock.

Put in the fewest words, it stands thus:

A capitalist has his money engaged in the production of some necessary article. Statistics show him that one-half of the value of the goods, that one thousand men with his machinery produces, will pay for all mental and physical labor, the raw materials and the salary of the overseer, and that the other half of the value of the goods will come to the one man—the capitalist—as his share; not for any personal service he has rendered, for he may be traveling in Europe, but for profit and interest on his capital. The thousand men, whose labor produced the goods, would like to purchase all of them or their value in other things, but they have only received, as wages, half the necessary amount of money to do so. That is, the men have produced one hundred per cent in goods, but they have only fifty per cent in money; consequently they cannot buy but half of them. The other half belongs to the capitalist. The capitalist cannot use as much as a thousand men, hence he must sell his half. But he cannot, because all other lines of production are carried on at about the same ratio; the thousands producing twice as much value as the amount of their wages will purchase. The people, of course, want the goods, but, as a necessary result of this impracticable wage system, they have no purchasing power. They would buy them if they could,

but are not able to. Instead of calling this under-consumption, it is absurdly called over-production.

To make this under-consumption still more distressing, the capitalist shuts down his factory and, of course, cuts off the wage bill. Instead of the thousand men now being able to purchase half, they are not able to purchase anything.

They, with the idle machinery, have the power and are anxious to produce all the wealth they want, but the capitalist who owns the machinery will not let them for he has a lot of goods on hand for sale, and it is therefore impossible for the workers to either produce or buy.

From this we learn that the machinery of production, being in private hands, makes every owner of it a dog in the manger, who will not produce wealth himself, except under a system that produces panics, enforced idleness and universal distress, and who will not let anyone else, resulting in that crime of all crimes—"the deadlock on production." As this is a most important factor in the promotion of human health and happiness we will further explain the wicked and unnecessary deadlock in another way.

Every improvement in machinery diminishes the number of hands required to produce a given quantity of goods; that fact lessens the wage bill because there are fewer hands to be paid.

It is the amount of money paid for labor that measures the extent of the purchasing power of the working people. Those who own the machinery will not produce more than can be sold with a profit, and that, of course, is limited to the amount of money paid as wages; hence capitalistic combinations buy up factories and manufacturing plants simply to shut them down and stop them from producing the things the people need that prices may be high.

To recapitulate: As machinery improves, fewer men are needed, less wages are paid, purchasing power is diminished, and production shrinks to fit it. At present we only produce goods to the value of 50 cents per day for every man, woman and child.

It can be demonstrated that if the State owned the machinery of production and run it for *use* instead of

profit, and supply was not limited to purchasing power, but by demand for services rendered, that instead of producing goods to the value of fifty cents we could certainly produce twenty times fifty cents' worth, and make all industrious men independent. Then the fear of poverty would be forever banished.

Labor saving machinery is the new factor introduced into society that makes it possible for a few men to deadlock production, and concentrate all the wealth of the nation into their hands.

In 1850, sixty-five per cent of all the wealth was owned by the many, and at this date (if we take the ratio of concentration as shown by the last census) we are horrified to find that the seventy million inhabitants only own eleven per cent, and two hundred and fifty thousand millionaires own eighty-nine per cent of all the wealth created by the millions. Civilization has risen in Egypt, Greece and Rome under relatively just conditions. Those civilizations have fallen when injustice concentrated the wealth into a few hands.

Every reflecting man who watches the "logic of events," sees clearly that the same fate or a revolution must overtake the civilized world. It is known for a certainty that the three factors, namely—corporations with vested rights for the few, which means vicious wrongs for the many; private ownership of machinery and land, and relentless competition are causes that portend a coming cataclysm.

Now, I maintain that the only way to avert this awful calamity is for the State to disband corporations, purchase the machinery of production and produce for use instead of profit—demand alone being the limit of supply and cost alone being the limit of price. The land must also be nationalized.

If these changes were to take place simultaneously, or at once, they would be more disastrous than to leave society as it is, because of another important factor, namely, the unreliability and low moral plane of the average working man. I am discouraged at being compelled to say that ninety per cent of them would not use an increase of income to provide against sickness and old age.

The man who is employed at a good salary and lives

up to the full extent of it and neglects to provide for sickness or old age, is a dishonest man, because he must (when these overtake him) live on the labor of others.

The order of society that we aim at would care for the unfortunate, but that ought to mean those only who have not brought misfortune on themselves by dissipation. If we were to undertake to care for them regardless of that distinction, reliable people would be swamped by the dissolute.

Sudden changes are always disastrous, but there is a method by which society can gradually be changed that will conserve the good and ultimately exterminate the evil.

In the socialistic postal service the incapable and the dissolute are weeded out, and the capable and temperate people are retained.

Suppose the railroad systems were run on the same principle, and capability, temperance and honesty were made necessary qualifications—the incapable, intemperate and dishonest would be weeded out of this occupation, as well as the postal service, and would have to find employment in the callings that were conducted on the competitive system.

As each corporation was disbanded and the monopoly of natural opportunities were reclaimed to the people, such as the coal beds, gas and oil supply, etc., and these industries were run on the socialistic principle of demand being the limit of supply, and cost being the limit of price, they could hold out such inducements and require such qualifications as would sift once more the capable and temperate people out of the industries that were still run on the competitive system.

This principle, gradually spreading, would include street car systems, telephone companies, telegraph lines, and every industry now run and controlled by trusts, sifting all the capable and trustworthy people out of the competitive industries which, in turn, would be absorbed by the co-operative system or perish from inherent rottenness. Every useful industry would thus be preserved for the good of man and every evil, disease-breeding, mind-debasing calling would become

extinct, resulting in the general ennoblement of mankind and the dawn of "The New Time."

It is plain that society, if society would live, should see to it that economic conditions are such that Nature's noblemen will be the ones to finally survive.

The wage system, the fear of poverty and the contempt shown towards the recipients of charity are the factors that hold those who have no self restraint to some degree of industry.

When this class had been sufficiently weeded out by the method suggested, then the universal organization of a co-operative commonwealth would be practical, and the production and distribution of wealth increased twenty fold by invention, and the removal of the stupid and wicked deadlock on production and consumption. The comforts of life being absolutely secured to all from the cradle to the grave, the great barrier to human happiness would be removed.

The grand intellects that are now fighting the battle of life to protect their loved ones would turn their attention to higher aims when life ceased to be a battle. The laws of health would soon be so universally understood and known that those who were sick from neglect or vicious causes, would not look for sympathy because they would know their sickness to be the result of actions in violation of better knowledge.

Just and intelligent economic conditions would soon establish the second factor to the promotion of human happiness, namely, robust health.

These two would give vigor and leisure for an intellectual growth that would lift the human family into a realm of happiness quite unknown to those who live only on the animal plane.

It has been said that the "highest happiness on earth is the intellectual enjoyment of Nature." This saying is, no doubt, true, for the more extended our knowledge becomes of our true relation to our natural environments, the more happiness we can take out of them.

The astronomer contemplates the heavens with deep and awe-inspiring delight and humble veneration for its infinite grandeur. In that comparatively trifling star, the planet Mars, he sees a companion world pos-

essed with an atmosphere and seasons, oceans and continents. He sees straight lines across it that evidently means organisms, probably human. He sees points of light there that are so arranged as to suggest that they are making signals to us, broadening the idea of the brotherhood of man to the brotherhood of worlds. The astronomer's whole being is thrilled with the elixir of unrestricted rational contemplation of the heavens and delights in making deductions from the known to the unknown. He also realizes the indestructibility of the elements of which he is composed, and knows that he is a part of this grandeur forever.

In contemplating the beauty and fragrance of a flower the botanist (in his mind's eye) sees not only the flower and its place in Nature, but sees its long list of relatives and their simplification back to the mother plant. He mentally reaches also into the future and wonders what new charms it will take on.

A rock is of very little interest to the ignorant man. To the geologist it is an honest and truthful revelation of the long history of Mother Earth, away back from the time when the hosts of fire and water were engaged in battle and the elements warred against each other. He sees vistas of a world whose living organisms knew no benevolence. He looks into the future and sees other vistas of a regenerated world where benevolence is the leading trait.

Ignorance sees stars and flowers and rocks without a thrill of happiness because he perceives nothing of what they say to him. The stars and flowers and rocks have wonderful stories to tell and are enchanting entertainers to those who realize that the highest happiness on earth is the intellectual enjoyment of Nature, which must be founded, to be permanent and progressive, on true economic conditions.

A diseased state of society insures epidemics.

A healthy state of society insures the public health.

The co-operative commonwealth is but a healthy system of society. May it be soon realized and our common humanity, bound together in one Economic Brotherhood of liberty, equality and fraternity, be blessed with happiness and consequent good health.

VALUABLE RECIPES.**Neutralizing Cordial.**

Take Rhubarb (coarse powder).....	2 ounces.
Potassa Carbonate	2 ounces.
Goldenseal (coarse powder) ..	1 ounce.
Cinnamon (coarse powder)...	1 ounce.
Sugar.....	4 pounds.
Brandy	1 gallon.
Peppermint Oil.....	20 drops.

Macerate the rhubarb, goldenseal and cinnamon in half a gallon of the brandy for six hours at a gentle heat, keeping covered. Then transfer to a percolator and pour on the remaining brandy and then enough water till one gallon has passed through; add the potassa, sugar and peppermint oil, rubbed well together, and then strain.

This preparation is highly prized to correct diarrhoea in children. Dose, for this purpose, one-half teaspoonful every half hour, for a child of ten years. Adult dose, one teaspoonful. Large doses will overcome constipation and acidity of the stomach.

Florida Water.

Take Oil Lavender.....	4 ounces.
Oil Bergamot	4 ounces.
Oil Neroli	2 drachms.
Oil Orange.....	4 drachms.
Oil Cloves.....	1 drachm.
Musk.	5 grains.
Cologne Spirit 96°.....	1 gallon.

Mix. Macerate for two weeks and then pass through filter paper.

Basilicon Ointment.

Take Resin.....	10 ounces.
Yellow Wax.....	4 ounces.
Lard.....	16 ounces.

Mix. Melt together over a slow fire; strain through muslin and stir slowly until cold. This ointment is easily prepared and will be found most serviceable for old burns and sores of all kinds.

Fruit Laxative.

Cassia (fistula)	16 ounces.
Tamarinds	10 ounces.
Prunes.....	7 ounces.
Figs	12 ounces.

Bruise and digest in sixty ounces of water for three days, then pass through a fine sieve. Add to the strained liquor four pounds of granulated sugar and evaporate to seven pounds by weight, and then add

Senna.....	10 ounces.
Coriander	6 ounces.

Mix till all is like a jelly and can be formed into lozenges. The above is a most pleasant laxative confection to be used in cases of chronic constipation.

Cascara Cordial.

Take Fluid Ext. Cascara Sagrada, 12 drachms.	
Fluid Ext. Barberry	6 drachms.
Fluid Ext. Dandelion.....	2 drachms.
Alcohol.....	1 ounce.
Aromatic Syrup for.....	16 ounces.

Mix. This is a most pleasant preparation to be used for chronic constipation. Dose, one teaspoonful night and morning.

Cough Syrup.

Take Fluid Extract Hops	2 drachms.
Fluid Extract Lippia	1 drachm.
Fluid Extract Licorice	1 drachm.
Syrup of Ginger for.....	4 ounces.

Mix. Dose, a teaspoonful; useful for hacking cough.

Digestant.

Take Tartrate of Iron and Potassa..	10 grains.
Sulphate of Hydrastia.....	5 grains.
Citric Acid.....	5 grains.
Water.....	4 ounces.
Alcohol.....	2 ounces.

Mix. Dose, a teaspoonful before meals. This is useful to aid digestion and to promote appetite.





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